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Asbestos and the World Trade Organization:
A case study challenging the legitimacy of the WTO
as a forum for the adjudication of public health and environmental issues

by

Kyla Elizabeth Sentes

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Arts

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *Asbestos and the World Trade Organization: A case study challenging the legitimacy of the WTO as a forum for the adjudication of public health and environmental issues* submitted by *Kyla Elizabeth Sentes* in partial fulfillment of the requirements for the degree of *Master of Arts*.

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Dr. Lois Harder

Dr. John Church

Date thesis approved by Committee: 27 Sept. 2002

In loving memory of Raymond Max Sentes

September 20, 1943 - April 13, 2000

Father, Friend, and Mentor

"One has to have a great dose of humanity, a great dose of the feeling of justice and of truth not to fall into extreme dogmatism, into a cold scholasticism, into isolation from the masses. Every day one has to struggle that this love to a living humanity transform itself into concrete acts, in acts that serve as examples, as motivation."
-Che Guevera

Abstract

This thesis, through the use of a case study, challenges the notion that the World Trade Organization is a legitimate forum for adjudicating issues of public health and environmental policy-making.

A recent WTO ruling supporting a French ban on asbestos has sparked debate among activists and policy-makers. Some have suggested the ruling shows that the WTO is becoming more responsive to the concerns of civil society. Others have asserted that the decision to allow the ban to stand indicates the organization is now endorsing the precautionary principle, a preventive tool used for formulating public health and environmental policy.

Using the asbestos issue as a case study, I examine the role of the precautionary principle in the WTO's dispute settlement process; the numerous procedural concerns surrounding the process; and the role the recent globalization backlash may have played in determining the outcome of the case. It is my contention that the inherent structural flaws in the WTO process as well as its economically-driven mandate still present numerous obstacles to the protection of public health and the environment. As such, the recent optimism about the WTO, generated by the seemingly positive decision in the asbestos case, is premature.

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Chapter 1 - Introduction

As the foremost international ruling body on trade and economics, the World Trade Organization has had numerous opportunities to convince a sceptical public that, as they claim, they truly have the public's interest at heart. A WTO pamphlet entitled *Ten common misunderstandings about the WTO* asks us to ignore critiques of the organization insisting that "In the WTO, commercial interests do NOT take priority over environmental protection" and the WTO "does NOT dictate to governments on issues such as food safety, and human health and safety. Again commercial interests do NOT override" [emphasis in original] (World Trade Organization 2002). Repeatedly they have attempted to defend themselves against criticisms that they are solely concerned about the economic rights of corporations and multinationals. Indeed, they have had many opportunities to do so. In recent years, nearly one out of every four cases brought to their system of dispute resolution has had to do with environmental, health, or safety issues (Wallach & Sforza 1999). Yet each time the ruling panels have decided in favour of business interests.

As their track record shows, there is little the WTO seems to be able to do to persuade the public that they do not, in fact, value corporate interests over the health of the public. However, in September of 2000 many began to claim that had all changed. At that time the public was presented with the information that the WTO's dispute resolution panel would, in fact, make their first decision favouring public health over the economic interests of a member state. The decision involved a dispute between Canada and France over the use of chrysotile asbestos. Canada, who for years has been one of the largest producers and exporters of "white" chrysotile

asbestos, had challenged France and the European Community's decision to ban future use of all forms of asbestos. The WTO's ruling allowed the ban to stand and the subsequent appeal was also denied.

Trade officials wasted no time in ensuring that the whole world heard of this monumental decision, which seemed to prove that the WTO was capable of dealing with the concerns of civil society. The above-mentioned pamphlet was quickly redesigned to incorporate the decision, stating that "As an example, a WTO dispute ruling justified a ban on asbestos products on the grounds that WTO agreements do indeed give priority to health and safety over trade" (World Trade Organization 2002).

The case was also singled out in a recent edition of The Ecologist (2000) where Philippe Legrain, special advisor to the WTO Director-General Mike Moore, found himself involved in a heated exchange of letters on the accountability and necessity of the World Trade Organization. When activist Walden Bello suggested that "The WTO is the incarnation of a paradigm that subordinates almost every other good – environment, development, food security, culture – to free trade," Legrain attempted to counter by pointing to a recent example where the WTO's dispute resolution process had produced a ruling in favour of public health: the asbestos case (Bello & Legrain 2000).

> WTO rules allow governments to protect human, animal or plant life and health however they want so long as their measures are not arbitrarily or unjustifiably discriminatory and are not disguised protectionism. Take the recent asbestos case. Although a WTO panel found that France's ban on white asbestos discriminates against Canada, it upheld the ban on health grounds (Bello & Legrain 2000)

However, as this paper will show, the decision was not as easily made as Legrain would have the public believe. The rulings on the asbestos case are much more complex and inherently flawed than Legrain would have readers assume. That the French ban was considered to be discriminatory by the Dispute Resolution Panel demonstrates that the WTO's dispute resolution process is structurally flawed and that interpretations of the Agreement on Technical Barriers to Trade are vague at best.

Legrain is not the only trade official to point to the asbestos case to refute accusations that the WTO is solely concerned with the advancement of business interests. In the October 25th, 2000 edition of the International Herald Tribune Mike Moore, Director-General of the WTO, stated: "Much has been written by the [WTO] organization's critics about how WTO rules place trade above issues such as the environment. But the facts prove otherwise. Only this year, a WTO dispute panel upheld France's right to bar imports of asbestos on health and safety grounds" (Moore 2000).

However, it is not only proponents of expanding the global system of trade who have pointed to the asbestos case as an example of how the WTO has become an entity responsive to concerns over health and the environment. Laurie Kazan-Allen, publisher of the British Asbestos Newsletter, documented some responses to the rulings:

> Pascal Lamy, European Trade Commissioner, said: "This ruling shows that the WTO is responsive to our citizens' concerns. Legitimate health issues can be put above pure trade concerns. The ruling confirms that regulators can set the desired level of protection of health." Aimee Gonzales, a spokesperson for WWF International commented: "In this case, the scientific evidence supporting the French ban on asbestos was overwhelming, however the Appellate Body's guidance on the relevance of scientific opinion confirms that

> all Member governments may be entitled to opt for maximum protection of humans, animals, and plants even where scientists disagree as to the risks justifying protection" (Kazan-Allen 2001).

While the latter statement is not a whole-hearted endorsement of the process, it still indicates a willingness to look at the asbestos case as an example of WTO responsiveness.

This willingness was reiterated with the announcement of the Appellate Body's decision to also uphold the ban. At that time several non-governmental organizations, including the Ban Asbestos Network, the International Ban Asbestos Secretariat and the Foundation for International Environmental Law and Development, applauded the ruling in a press release (Greenpeace 2001). Remi Parmentier, the Political Director of Greenpeace International, stated "This is an important step because it represents a validation of the precautionary principle in trade related disputes" (Greenpeace 2001). In addition the "groups said the March 12 decision upheld the precautionary principle, allowing national governments to make the decisions they deem best to protect the health and safety of their citizens" (News 2001). This raises some concern over the relevance of the Precautionary Principle to this case. While this decision will undoubtedly prevent future deaths, it is questionable as to whether it accurately fits the definition of precaution as it relates to the principle.

The Precautionary Principle

While proponents of the Precautionary Principle will concede that it can often be an ill-defined and flexible concept, one definition which includes most considerations may be found in *Protecting Public Health and the Environment:*

Implementing the Precautionary Principle (Lewis 1999). It states that "when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically" (Lewis 1999, 241). It is a concept of risk avoidance where "prevention is better than cure" (Santillo, Johnston, and Stringer 1999, 37).

As this relates to industrial activities, which may negatively impact health or the environment, the application of the Principle may also be seen as encompassing several positive duties:

> -a duty to fully investigate to the fullest extent the possible effects on humans and the environment;
> -a duty to accurately label the substances in question and inform consumers and those handling the substances of potential risks and necessary precautions to be taken;
> -a duty to consider the use of safer substitutes whenever possible (Wahlström 1999, 53).

Theoretically, it challenges the commonly held notion that science can unequivocally discover truths about the impact of substances and activities on the world around us. It acknowledges that it is extremely difficult, if not impossible, in most cases to "prove" anything beyond reasonable doubt. It is an attempt to prevent industry from exploiting existing scientific uncertainties. In addition, if the Precautionary Principle is applied, the burden of proof rests on those engaging in the production of potentially hazardous substances to prove that those activities are completely harmless to health and the environment.

However, it is "far easier to list examples of situations where the Precautionary Principle should be used, or should have been used than to find cases where it has been applied successfully" (Wahlström 1999, 61). And as this thesis will

show, the asbestos case falls under the former categories and as such does not necessarily warrant suggesting that, in ruling as they did, the WTO has embraced the Precautionary Principle. The asbestos case is, in fact, a perfect example of an occasion where an industry and government had several opportunities to apply the Precautionary Principle and rejected each one. Not only that, but chrysotile asbestos is one of the few cases where certainty does in fact exist. As the coming chapters will show, by the time the case arrived at the WTO it was much too late to consider the application of precaution. Applying the Precautionary Principle to asbestos use would have meant placing restrictions on the substance when a risk was first suspected – early in the 20th century – not in the year 2000 when the risk had already been well established. Scientific certainty on the risks of asbestos exposure was established very early in its use. However rather than erring on the side of safety, the "corpses on the table" method of assessment was employed (Wahlström 1999, 55).

For those involved in the fight to end the use of asbestos worldwide, the decision has been deemed a victory, and rightly so. However, in a broader scope, as for other public health and environment activists or policy-makers, the decision does not necessarily represent such a triumph. The Precautionary Principle, a valuable tool in protecting health and the environment, remains a contentious issue at the WTO and there is no indication from the asbestos case that this will change. Many questions arise about just what this decision will mean in terms of its usefulness for other health and environment activists who find themselves in battle against the WTO. So far, other attempts to deal with health and environment issues through WTO processes have not been highly successful.

An examination of the Dispute Settlement process for the asbestos case suggests that corporate interests continue to dominate as the primary interest when a member state attempts to deal with rising threats to health or the environment. As much as the Canadian government would like the public to believe otherwise, chrysotile asbestos hardly constitutes a new threat to public health and safety and as such offers little hope for activists concerned about their right to apply the precautionary principle for new concerns.

Chrysotile asbestos' longtime Canadian, as well as global, presence is well documented, as are the health hazards associated with it. Because of the overwhelming amount of documentation about the risks of asbestos, trade officials cannot realistically point to the decision on allowing the French ban to stand as being extremely bold or ground-breaking. As this paper will show, the WTO may well have had no other choice than to rule as it did. To do otherwise would have been to completely ignore nearly a century's worth of scientific documentation and risk further damage to its already wounded reputation in the public eye.

Outline

By examining the above mentioned factors, this paper sets out to assess the adequacy and legitimacy of the WTO, specifically its dispute settlement process, in adjudicating conflicts over the protection of public health and the environment. To begin, this paper will examine the historical context of the asbestos debate. In the following chapters the relationships between the asbestos industry and the Quebec and Federal governments will be outlined. This examination provides not only the reasons why the case was brought before the WTO, but also documents the numerous

opportunities where scientific uncertainty was exploited for economic gain. This is particularly important when one views it in conjunction with the above-mentioned assertions that the WTO challenge represented a movement towards the adoption of the Precautionary Principle.

The third chapter will focus more heavily on the export of Canadian asbestos abroad, specifically to developing countries of South America, Africa, and Asia. The account bears directly on the reasons why Canada chose to challenge the French ban - namely that a French ban would send a clear message to developing countries that the substance cannot be used safely in even the industrialized world. This chapter will also trace the push towards banning asbestos in other industrialized countries and look at the pressure Quebec placed on the Federal government to resolve the issue.

Chapter Four will closely examine the arrival of the asbestos case at the WTO and the procedures involved in the Dispute Settlement Process. I will then examine its application to the asbestos case. This section details the scientific hearings which took place and highlights several problems which appeared while adjudicating the complex scientific issues involved. The final rulings of both the Dispute Settlement Body and the Appellate Body, and the logic contained therein, are then examined, further challenging the notion that the WTO is an adequate locus for resolving matters of public health and the environment.

Due to the problematic nature of the process and the ultimate rulings, this thesis then argues that other factors were more heavily responsible for the outcome allowing the asbestos ban to stand. I contend that the WTO's decision stemmed from not only the overwhelming scientific evidence which existed in the asbestos case, but

also because of the political events running up to and through the Dispute Settlement process. Both the historical context of the case as well as the dispute settlement process refute arguments suggesting a new responsiveness on the part of the WTO. As a result, chapter four points to a new crisis of legitimacy for international institutions as an alternative explanation for the outcome of the asbestos case.

Crisis of Legitimacy

To provide an understanding of the events which occurred during the dispute settlement process and the ultimate decisions themselves, I have adopted the Gramscian analysis as expressed in the works of Walden Bello, Tony Clarke and Maude Barlow. While other conceptual frameworks, such as those of policy networks and communities, could well be applied to examine the various levels of industry and state interaction, a Gramscian analysis provides a framework allowing a wider scope of examination. As such, the argument of this thesis focuses on a broader examination of the events surrounding the asbestos case.

Antonio Gramsci spoke of the potential for a "crisis of legitimacy" when those governing appear not to have the consent of the collective whole of society. He suggested that in society it is required that an "implied contract between governors and the governed" exists (Pellicani 1981, 24). Those governing are required to accept the consensus of those being governed on the decisive questions of human life. The withdrawal of this consent results in a crisis of legitimacy where the governing structures are destabilized and eventually crumble, "When legitimacy is vanished and not regained …structure collapses" (Bello 2000a, 15).

In Gramscian theory institutions adopting a governance role are entrusted with the value systems of those being governed. The WTO has attempted to adopt such a governance role and has touted itself as being responsible for creating "a constitution for a new global economy" (Clarke 2000). These institutions achieve legitimacy when they appear to have the consent of the collective whole of society. However, when those governing no longer represent the consensus of society they lose that authority they are no longer governing but simply dominant (Gramsci 1992, 275). The result is that "a crisis of legitimacy occurs…[in which]…organizations are stripped of their moral or cultural prestige and reduced to their basic 'economic/corporate' status. Then their real objectives and methods of control are exposed" (Clarke 2000).

Gramsci asserts that this domination will then lead to the use of oppressive or coercive force to enact policies or promote particular interests or agendas. In the case of the WTO, the dispute settlement process may well be seen as an example of this type of force:

> In short, the WTO is vested with judicial, legislative and executive powers so all-encompassing that they amount to a form of global governance. Armed with a "guilty" verdict against a country that breaks its rules, the WTO in effect can force that country to withdraw or change its laws and policies, or else risk punitive trade penalties (Clarke 2000).

Gramscian theory asserts that when conditions reach this stage, those being governed will withdraw their consent from governing structures. This withdrawal of consent, or revolt, may take several forms including the protest movements that have been witnessed in recent years. It follows that under such conditions, if measures are not taken to regain legitimacy, institutions will be in danger collapse. The way in which

the asbestos case manifested itself at the World Trade Organization level appears to fit well into this model.

Walden Bello, who was embroiled in the debate cited above, points out how this recent crisis of legitimacy for international organizations like the WTO has emerged. He suggests that this crisis, though brewing for several years, definitively emerged at the Seattle WTO protests of 1999:

> In retrospect, with the deepening crisis of legitimacy of the prime institutions of the global system in the latter half of the 1990s, Seattle was a cataclysm that was waiting to happen. The force of pent up global rage went on to manifest itself in Washington during the World Bank-IMF spring meeting in April 2000, in Chiang Mai, Thailand, during the Asian Development Bank annual meeting in May 2000, in Melbourne during the World Economic Forum gathering in early September 2000, and in Prague during the World Bank-IMF annual meeting in late September 2000. (Bello 2001)

In later writings, Bello also adds the 2001 G-8 protests in Genoa, Italy, the 2000 protests in Davos, Switzerland and the World Social Forums in Porto Alegre, Brazil of 2001 and 2002 to the list of evidence of the globalization backlash. Authors Maude Barlow and Tony Clarke have also documented the emergence of the so-called anti-globalization movement in recent years and view it as a significant challenge to the global economic system (Barlow and Clarke 2000).

These movements present a challenge to international institutions. Organizations like the WTO are increasingly being recognized by civil society as placing corporate interests over the shared system of beliefs, or the Gramscian consensus. These shared beliefs have become more apparent in recent years as civil society organizations have synthesized their concerns. A common analysis has emerged expressing the concern that economic globalization is leading to

environmental degradation, increased economic inequalities, worsening global health, and that transnational corporations are having an increased influence on government policy (Barlow and Clarke 2000, 26-27).[1] As such, the anti-globalization movement is pushing towards delegitimizing the WTO through coordinated actions like those mentioned above.

The asbestos case serves as a possible outcome of the crisis. It presented itself before the WTO during a period of unprecedented pressure from civil society. The character of asbestos critics and those involved in defending the French ban is clarified in the coming chapters. In the coming chapters, there is extensive information on the medical and scientific, as well as the political and historical context surrounding asbestos issues. The information which exists in the asbestos case re-affirms the legitimacy of those involved in the banning of the substance. As such, it is an apt case study to examine the role these pressures have had on institutions wanting to retain their legitimacy in the global sphere. Few other health or environmental cases have arisen combining both the scientific, historical, and political context of the asbestos case.

The exploration of the above-mentioned issues leads to the final chapter in which this thesis contends that optimism about the WTO may well be premature. The outcome of the asbestos case, while positive in the scope of asbestos issues, in a broader sense requires that public health and environmental advocates remain wary. I conclude that there remains sufficient reason to be suspicious as to whether this case

[1] Further evidence of this dissatisfaction with various levels of governance is presented on a broader scale in studies like those of David Zussman. "Do citizens trust their governments?" *Canadian Public Administration*. Volume 40, No. 2 Summer. Pp. 234-254

represents a genuine willingness on the part of the WTO to change its modus operandi.

Chapter 2 - From Magic Mineral to Deadly Dust

> *Asbestos doesn't hurt your health. OK, it does hurt your health but it doesn't cause cancer. OK, asbestos can cause cancer but not our kind of asbestos. OK, our kind of asbestos can cause cancer, but not the kind this person got. OK, our kind of asbestos can cause cancer, but not at the doses to which this person was exposed. OK, asbestos does cause cancer, and at this dosage, but this person got his disease from something else, like smoking. OK, he was exposed to our asbestos and it did cause his cancer, but we did not know about the danger when we exposed him. OK, we knew about the danger when we exposed him, but the statute of limitations has run out. OK, the statute of limitations hadn't run out, but if we're guilty we'll go out of business and everyone will be worse off. OK, we'll agree to go out of business, but only if you let us keep part of our company intact, and only if you limit our liability for the harms we have caused.*
>
> *-David Ozinoff (Ramtpon, 2001)*

The following sections provide a historical context to the asbestos debate. Detailing the development of chrysotile asbestos' use and its risks to human health, this chapter réveals the role of the asbestos industry in formulating both natural resource and health policy in Canada. Contained in this history is evidence documenting the numerous opportunities wherein the Canadian government could have behaved in a preventive and precautionary manner to protect workers, and failed to do so.

Repeated patterns of denial and non-disclosure of information on the parts of both industry and provincial and federal governments appear over the course of nearly a century of asbestos use in Canada. Calculations favouring short-term economic gain over long-term human loss were frequently made through exploiting scientific uncertainty.

The Establishment of a Hazard

In the simplest terms, asbestos is the name used to describe the fibrous form of the rock-forming minerals called serpentines and amphiboles. The serpentine group is comprised of chrysotile (known as white asbestos), the most commonly used form of the substance. The amphibole group is comprised of crocidolite (known as blue asbestos) which is mined primarily in South Africa, amosite (known as brown asbestos), anthophyllite, actinolite and tremolite.

These various forms of asbestos have a long history of usage dating back to antiquity. Its fire-resistant and fibrous properties were well known throughout history. It was often spun for use in textiles, used as a building supply, and the seemingly innocuous substance was even chewed like bubblegum by children (Elliot 1938). Dating back almost as far though, was also the recognition of a link between use of the substance and respiratory illness. One of the first documentations of this comes from the ancient Roman historian Pliny who referred to it as "…'the funeral dress of kings,' as well as a potent killer of the slaves who mined and wove it" (Kotelchuck 1989, 193). Pliny also highlighted the dangers of the dust explaining "the use of transparent bladder skin as a respirator to avoid inhalation of dusts by slaves" (Castleman 1996, 1). Canada later learnt those same lessons about its properties and its hazards with the discovery of rich asbestos deposits in Quebec in the late 19th century.

Andrew Johnson, who opened the first mine in Thetford, Quebec in 1878 first capitalized on the presence of chrysotile asbestos. Many other British, American, and Canadian investors quickly followed suit and the asbestos mining business boomed

almost overnight. Global asbestos production went from just 500 tons in 1880 to 180,000 tons by the year 1924 (Kotelchuck 1989, 193-194).

The advent of the industrial revolution meant even more uses for this new "magic mineral." Asbestos was used in

> ...spinning textiles, brake linings, yarns, rope, thread, string, packing, conveyor belts, table mats, insulation for electrical wires, and filters...[and milled fibres were used in] asbestos cement sheets, mixed with magnesia for insulation, and with rubber for asbestos rubber sheet packing...[it was] mixed with Portland cement and made into shingles, tiles, flooring and boards...Paper stock asbestos was used in making asbestos millboard and paper, which in turn were made into packings, brake linings and clutch facings. Short milled fibres were used in making cements, paints and various other products (Sentes 2001, 2-3).

By the 1920s its use was pervasive throughout the industrialized world. It was claimed that "Asbestos today is an industrial, architectural and domestic necessity in the strictest sense of the word. There is no substitute for it. No other known material possesses the inherent fire resistance, durability and adaptability of asbestos." (Sentes 2001, 3). This was great news for Quebec, as it had quickly become the world's biggest producer and exporter of asbestos.

Witnessing the boom in the Canadian asbestos industry, foreign companies were quick to stake a claim on the various deposits. Those companies included the Johns-Manville (J-M) Company (which incorporated as Canadian Johns-Manville, [CJM]); the Philip Carey Corporation (incorporated as Quebec Asbestos Corporation); and the British company Turner & Newall (T&N) (Sentes 2001, 3-5).

The Quebec industry soon became dominated by these subsidiaries and federal and provincial governments worried that not enough of the profits were benefiting the Canadian economy. One of the moves the Federal and Quebec

governments made to remedy this situation was to create a relationship with industry to share "the common goal of developing and maintaining a profitable export-based industry" (Sentes 2001, 40). One of the ways to do this was to open up a number of manufacturing facilities where the crude fibre could be milled and asbestos-containing products could be made.

It remains debatable as to the exact date wherein asbestos corporations in Canada first recognized that the mineral presented a grave physiological hazard to those handling the substance. However, it is clear that it was not a relatively long period of time after the openings of the first mines:

> The first medical diagnosis of asbestosis, a lung disease caused by breathing asbestos dust was made by British Physician H. Montague Murray in 1900 and reported briefly in his hospital's newsletter. This case was reported to the British parliamentary committee on worker's compensation in 1906, and similar findings appeared in French and Italian publications during the next two years (Kotelchuck 1989, 194).

And in North America, "As early as 1918, North American insurance companies were declining to insure asbestos workers" (Tataryn 1979, 15). Then, in early 1924, a definitive link between asbestos and health became clearer with publications by Dr W.E. Cooke in the British Medical Journal (Cooke 1924). Therein, it was documented that there appeared to be a great deal of fibrogenesis (the proliferation of fibers or fibrous tissue) occurring in the lungs of asbestos miners and millers, symptoms that often led to the development of the disease asbestosis. It was becoming questionable as to whether substance's hazards outweighed its usefulness.

In Canada, however, labour officials were slow to examine the risks of asbestos for human health. When the first Canadian occupational health and safety apparatus was created in 1920, the focus at the time appeared to be on the effects of

silica, a close geological cousin, on respiratory health. However, around the world and at home, the link between asbestos alone and ill health was already being clearly delineated and documented. Yet none of the information being gathered was being freely distributed to those actually involved in the mining or processing of the fibre.

The Canadian Department of Health and the Department of Mines, through the division of Industrial Hygiene, had been routinely gathering information from international sources on the effects of asbestos throughout the 1920s. In addition, monthly reports on the state of asbestos were being published in the United Kingdom's Labour Gazette (Anonymous 1912, 761-762). This information was not, however, easily accessible to Canadian asbestos workers, many of whom were illiterate. Nor was the Canadian government making any effort to assist workers or unions in getting this information.

In later years, many corporations attempted to defend their continued use of the product by saying they simply did not possess the knowledge necessary to determine whether asbestos posed a significant health risk. Yet in stark contrast to these assertions, the Canadian government was actually providing American asbestos corporations with a great deal of research on the effects of the dust by the 1930s. Indeed, one of the most definite reports on the risks of asbestos exposure was made available to Johns-Manville in 1930. [2]

By the time the depression hit, governments in Eastern Canada were well aware of the existing research which pointed towards the health hazards posed by asbestos, specifically, a fibrosis of the lungs and thickening of the lung tissues known

[2] The Merewether and Price report coming out of the British Factory Department classified "asbestos dust exposure as a serious occupational hazard." (Kotelchuck 1989)

as "pleural plaques." Eventually the unions, sensing that there was something other than rampant tuberculosis that was creating problems for their workers, began to pressure governments to receive compensation. What the unions did not know, though, was that asbestos poisoning has a latency period that can extend to over 20 years. As such, governments could limit compensation claims to within a few years of initial exposure without being questioned, and minimize the costs of claims (Sentes 2001, 30). This ensured that most victims would be long past the statute of limitations by the time they discovered the presence of an illness.

The onset of World War II brought a new demand for asbestos and the fibre began to be used in a myriad of new products. Some of the new uses found for the fibre were in shipbuilding, where the asbestos was used to fireproof ships and tankers, and in the production of gasmasks which used asbestos pad filters.[3] The new war economy saw asbestos plants nearly double in a few short years and the number of workers employed by the asbestos industry rose from 3,500 in 1937 to over 75,000 by 1943 (Department of Trade and Commerce 1944) (Canadian Johns-Manville Co. 1945). The asbestos industry reaped tremendous profits from the war and its many newfound uses were promoted to the general public. The public was not, however, told of the deteriorating working conditions in mills and plants during the war which were increasing the risk of exposure. There was no regulatory system in place on either the provincial or federal levels to ensure that asbestos companies would follow any definitive standards of safe production.

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[3] Currently shipbreaking is a major concern for workers. Those ships in which asbestos was heavily used in the building, no longer useful, are now being broken down, releasing not only asbestos but numerous other toxins. There is a growing concern about the health of those involved in that industry, most of whom work in the Third World.

However, the Canadian Medical Association, in their own surveys, had discovered government-controlled companies were the chief offenders in the health and safety area. This was revealed in a communication between members of the Department of Munitions and Supply:

> You will note by the attached memorandum that at a meeting of the Technical Advisory Committee on Industrial Hygiene, held October 6th, a complaint was made that this Department was not cooperating to ensure that contractors complied with the provisions of Order-in-Council PC 1550, and it was alleged that some government controlled companies were among the chief offenders (Fogo 1943).

The memorandum goes on to explain that several instances where doctors "had found the medical organization and equipment [were] far from satisfactory and the companies were still refusing to establish the medical care required by the law" (Fogo 1943) (Younge 1943). Not only were governments lax in initiating potentially life-saving measures, they were lax in determining what the risk factors of their new asbestos ventures were in the first place.[4]

In 1944 the levels of dust exposure at Quebec's Thetford Mines ranged from 11.6 to 26.6mppcf (Metropolitan Life Insurance Company 1944).[5] The results from these dust tests were not given to the public. Quebec Health and the Workers Compensation Board kept them confidential. Also, workers at many of the plants that had claimed they were meeting the suggested standard of safety presented first-hand

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[4]One example of this was the mass production of gas masks, which used crocidolite filters, during war-time. This proved later to be a health and safety nightmare. Hundreds of workers later died because the federal government and its research institutes refused to do risk assessment on the potential hazards. (Malarek 1978)

[5] mppcf stands for "million particles per cubic foot…a unit for expressing concentration of particles of a substance suspended in air" (Ansell Occupational Healthcare). In the 1930s and 1940s acceptable standards were 5 mppcf. This would remain the standard until the beginning of the 1970s. However, evidence of asbestosis was being found in workers exposed to levels as low as 4.64 mppcf (Castleman 1996, 281). To calculate lower limits than those expressed above the term f/cc is used: "fibers per cubic centimeter of air" (Ansell Occupational Healthcare). In the 1970s and 1980s asbestos exposure

reports that conditions were anything but safe in the workplace (Sentes 2001, 67-69). The Quebec mining associations continued to assert that there had been no cases of disability or death resulting from asbestosis. Again, the workers told another story.[6]

Meanwhile, British and French researchers were determining that asbestos posed a much greater hazard than had initially been suspected and a new threat began to appear in conjunction with exposure to asbestos dust: cancer. Now, not only was there a significant risk of workers developing the chronic and fatal disease asbestosis, but it appeared they were also at risk for developing a number of different cancers including the deadly mesothelioma, a cancer that lies dormant for many years and then usually kills its victims in a year or two.

In yet another act of secrecy the asbestos industry kept these results from workers. While many health journals, newspapers, and magazines began to publish information on the dangers of asbestos, the industry ensured that all information on tumours and cancers arising from asbestos exposure were omitted from all studies provided to the public. In a study of the industry conducted by the Metropolitan Life Insurance Company, Johns-Manville representative Vandiver Brown asked Dr Anthony Lanza, Assistant Medical Director

> ...to retain a sentence in the paper's first conclusion that "clinically, from this study it (asbestosis) appeared to be of a type milder than silicosis." He also asked Lanza to re-insert a sentence in the text contrasting the relatively few diagnoses of tuberculosis among asbestos workers to those among workers subject to silicosis. At the same time Brown protested to Lanza, "I am sure that you understand

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limits went from 5 f/cc, down to 0.5 f/cc (Castleman 1996, 283-284). Current Canadian limits are at 0.1 f/cc.

[6]At that time, the Quebec mining associations then began to set up the first in a number of industry-positive medical and research facilities. The first facilities were clinics for asbestos workers. Their intent, however, was not to ensure the health and well being of workers. Rather, it was to use the results of their clinic examinations on workers to persuade the public that asbestosis was not disabling or fatal without the concurrent presence of other diseases such as tuberculosis. (Kotelchuck 1989)

> fully that no one in our organization is suggesting for a moment that you alter by one jot or little [sic] any scientific facts or inevitable conclusions revealed or justified by your preliminary survey. All we ask is that all of the favorable aspects of the survey be included and that none of the unfavorable be unintentionally pictured in darker tones than the circumstances justify. I feel confident we can depend upon you and Dr. McConnell to give us this 'break.'" Both of the changes recommended above were made…(Kotelchuck 1989, 197-198)

More shocking, however, was the fact that many of the workers who had developed these diseases were not properly informed about their conditions. Dr P. Cartier, who ran the company clinics from 1940-1974 stated:

> …that he [Cartier] hadn't always informed workers suffering from asbestosis of the full extent of their illness on humanitarian grounds: "I figured it was in their best interests to stay at their jobs. Besides, they didn't want to be reported ill and transferred to a lower-paying job where they might have earned as much as fifty dollars less a week…even if they had left their work completely and gone on to drive cabs, for instance, it might not have arrested the progressive effects of asbestosis" (Tataryn 197, 289).

Johns-Manville Dr Kenneth W. Smith agreed with this sentiment, stating that "as long as the man is not disabled it is felt that he should not be told of his condition so that he can live and work in peace and the Company can benefit by his many years of experience." (Kotelchuck 1989, 203). If the diagnosis was revealed, then management would falsely tell workers that continued exposure really would not exacerbate their condition and that they would be much better off were they to continue working as long as possible. Additionally, it was viewed as being cheaper to allow workers to stay on the job. At a meeting between Johns-Manville president Lewis Brown and Vandiver Brown with the New Jersey Industrial Commission described, "I'll never forget it, I turned to Mr. Brown, one of the Browns made this crack (that Unarco managers were a bunch of fools for notifying employees who had

asbestosis), and I said, 'Mr. Brown, do you mean to tell me you would let them work until they dropped dead?' He said, 'Yes. We save a lot of money that way.'" (Kotelchuck 1989, 202).

During the Asbestos Strike of 1949, things got worse for the industry. When workers from the National Federation of Mining Industry Employees went on strike protesting working conditions, articles began to appear in newspapers with information about working conditions. He explained many of the non-publicized hazards of working with asbestos and revealed the fact that corporations had been concealing this information from workers. The articles prompted a great many media members from outside of Quebec to take a closer look at the industry.[7]

However, the federal mines continued undaunted ensuring that the industry had adequate financial funding for increased production and expansion of the industry. Most of the federal generosity was received by the Quebec government, who now controlled 80% of the world's supply of chrysotile asbestos (Tataryn 1979, 16). Most of this asbestos was being exported for manufacturing purposes (EFS 1956).

By the 1950s other provinces began following suit and getting into the asbestos business. Federal and provincial governments seemed unconcerned by the health issues and would provide numerous tax breaks and other forms of aid. While management continued to tell workers there was no risk involved in spraying asbestos insulation or in bagging the fibre, what industry scientists were finding out from their

[7] Arbitration for the strike only occurred after a violent confrontation known as "Bloody Thursday." Industry representatives were brought in to testify that the risks from dust exposure had been exaggerated. Thirty years later the doctors admitted that they had blatantly lied about the effects of

own research institutes told a very different story. The evidence was showing that there really was no safe level of exposure to asbestos and that the standard adopted "voluntarily" by industry was completely inadequate to protect workers' health.

The 1938 standard of 5mppcf had never actually been scientifically tested for its validity. Non-industry scientists and doctors argued that much lower exposure levels than those being suggested by the industry had to be used to protect human health. This was especially disturbing given that the industry had failed to adhere even to their own 5mppcf minimum. Surveys of various Quebec mines and mills, including those owned by CJM and Bell Asbestos, revealed levels ranging between 23 and 720mppcf. The conditions in the manufacturing plants were not much better. Employees were found covered in dust, asbestos mixing areas were wide open with fibres all over, and no masks were being worn by workers (Callen 1981). Conditions remained poor throughout the decade.

While both the risks of asbestos and the industry grew at a rapid pace, so too did the need to compensate victims. Yet this remained an arduous task for victims and their families and indeed, remains so to this day. While boards were forced to recognize asbestosis as a compensatable disease, they refused to compensate heart failure caused by fibrosis or any other asbestos-related cancers they came across. Unfortunately for the industry, the information on asbestos-related cancers only grew worse in the coming years.

In 1955 the National Cancer Institute of Canada also decided to study the links between asbestos and cancer in humans. However, the industry refused to

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exposure and had also deliberately misled workers into thinking they were healthy when there was already evidence of illness (Tataryn 1979).

cooperate and instead the Quebec Asbestos Mining Association (QAMA) commissioned their own Industrial Hygiene Foundation to do the study. The study, conducted by Dr. Daniel Braun and Dr David Truan, indicated that miners did not have higher risks of lung cancer but those with pre-existing asbestosis did seem to be more prone to developing cancer than others.

> ...it seems fair to conclude that the asbestos miners at Thetford Mines and Asbestos in the Province of Quebec do not have a significantly higher death rate from lung cancer than do comparable segments of the general population. Despite this, the results suggest that a miner who develops the disease asbestosis does have a greater likelihood of developing cancer of the lung than a person without this disease. We suspect, however, that under-reporting of asbestosis cases has led to a fallacious finding in this connection (Braun and Truan 1957, 76).

Braun told the industry that asbestos was not a carcinogen and that the length of exposure did not affect the risk of developing cancer. However, this industry-funded study contradicted the mountain of studies from international sources which indicated the exact opposite. One of those international sources was Dr Irving Selikoff.

Selikoff had been studying occupational diseases for several years and by the 1950s was greatly interested in the asbestos issue. He had first noticed a high incidence of lung diseases in the United Asbestos and Rubber Company, prompting him to work closely with the International Association of Heat and Frost Insulators and Asbestos Workers "amongst asbestos insulation workers, he found the following: approximately one in five died of lung cancer; one in ten of mesothelioma (cancer of the lining surrounding the lung); one in ten of gastro-intestinal cancer; one in ten of asbestosis"

(Tataryn 1979, 34). Selikoff's studies of workers revealed to the public that the situation was far worse than industry had led everyone to believe.

In 1964, at the New York Academy of Sciences Conference, Selikoff presented his studies revealing the high rates of cancer related to asbestos dust exposure. In addition it seemed as though even just one bad exposure was enough to cause asbestos-related diseases of all (Selikoff, Chung, and Hammond 1964). His later survey of workers at Thetford mines were startling:

> Of the men who had worked twenty years or more in Thetford's asbestos industry and taken part in the survey, an appalling 60 percent had X-rays which showed abnormalities. The greater the seniority the more frequent were the abnormalities…The doctors also uncovered cases of asbestosis, lung cancer, and mesothelioma amongst the Thetford workers. The Mount Sinai team found that the asbestos workers were four times more likely to die of lung cancer than people not exposed to asbestos (Tataryn 1979, 30).

Selikoff made it clear that there was simply no safe limit that could be applied to dust exposure. Canadian governments made no mention of the conference results in any of the information given to the public or to workers. The asbestos industry made every attempt to discredit Selikoff and his studies. Then in 1966 the Institute of Occupational and Environmental Health Research (IOEH) was created and a massive PR campaign to preserve the reputation of the asbestos industry began.

The campaign was not without faults though. Industry members made several spurious statements. QAMA president MJ Messel claimed that Quebec asbestos, "white" chrysotile, was completely safe. Also, Dr Cartier claimed there had been no new asbestosis cases in Thetford since 1946 even though the number of claims was continuing to rise dramatically, along with the rising incidence of mesothelioma (Fortier, 1966) (Fortier 1966).

While the industry continued its strategy of damage control a new concern began to rear its head: the labelling issue. It was now clear that the risks of asbestos

were not isolated to miners and as such, the issue of warning labels for transport became extremely heated and would remain so for years. Corporations like Johns-Manville decided only to provide labels on some asbestos-containing products that were exported to the United States, not to those shipped within Canada or to anywhere else in the world. This would later come back to haunt the industry. In future liability lawsuits judges found this indicated that they had deliberately understated the risks to consumers as well as workers (Sentes 2001, 282).

The international scene looked even bleaker during the 1960s and 1970s. Dockworkers in the United Kingdom were striking because of health concerns. Subsequently Canada was in danger of losing its second largest export market. The trend towards decreased consumption continued across Europe. The industry needed a scapegoat. They found it in the form of "blue" crocidolite asbestos which was mined exclusively in South Africa by Cape Asbestos Limited. The Canadian government began to push for a ban of blue asbestos in order to preserve the reputation of Canada's white chrysotile. They claimed it was only the blue asbestos that caused mesothelioma, Canada's asbestos was "safe" (Tataryn 1979, 52).[8]

However, the scapegoat was not enough as there was more pressure arriving from abroad. There was a continuing worldwide trend to adopt stricter regulatory regimes for asbestos. Along with the stringent regulations coming out of Great Britain, the United States had begun to adopt similar, albeit not quite as strict, regulations. New fibre limits were as low as, and in some cases lower than 2 f/cc (Castleman 1996, 284).

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[8] This argument continues to pop up as critics of asbestos regulation continue to evade questions about why Canadian workers died from handling chrysotile.

The QAMA was disturbed by this regulatory trend and launched yet another massive PR campaign to counteract the effects organizations like OSHA were having on the public perception of asbestos. Hundreds of publications were disseminated to the public, targeting schools, architects, construction companies, and mining communities, describing how "safe" our white asbestos was (Waddell 1968). None of the articles ever went into details over health and instead focused on how important the fibre was to technology and the overall economic well-being of the country. However, critics like Dr. Selikoff remained at the fore and moved in to warn Canadians of the hazards the mineral posed to their health.

The industry was threatened and became vociferous in its attacks on anyone in the media who appeared to be offering anti-asbestos coverage, particularly in French-speaking Canada. They also continued their information campaign stating that chrysotile was too essential to our lives to be banned or substituted with other alternatives. According to them, it posed no risk to the public. The industry claimed they were enforcing safe dust levels that would eliminate all risk, despite the previously mentioned industry documents pointing towards a very different analysis of "safe" dust levels. The QAMA then went on to say that the hazards had only been very recently known by the industry and that as soon as they found out the risks, they had been eliminated.

However, unbeknownst to the industry, members of the Confederation of National Trade Unions (CNTU) working at the Thetford mines had been sending dust samples to Dr Selikoff for several years. The test results showed dust levels well beyond even industry standards. In addition, CNTU had also commissioned an

epidemiological study on the health of their miners, millers, and insulators. The results were worrisome to the industry. In just a few years of records Selikoff could already determine that an alarmingly disproportionate amount of these workers were dying from lung cancer, mesothelioma and asbestosis (Selikoff and Lee 1978) (Selikoff, Hammond, and New York Academy of Sciences. 1979).

The industry and government were yet again on the defensive. The federal department of Natural Resources admitted they had deliberately not dropped the acceptable limit of dust exposure out of fear that companies would relocate or cease their expansion (Sentes 2001).[9] In kind, the multi-billion dollar industry stated that it would cost millions to further lower levels from 5f/cc to 2f/cc. However, the medical evidence could no longer be swept under the rug. In 1975, in the midst of another "asbestos strike." Judge Réné Beaudry was commissioned to preside over a public inquiry on the health effects of asbestos in Quebec.

The information revealed in the inquiry was shocking to many. Former Turner & Newall doctors testified that there was a much higher incidence of asbestos deaths than had been revealed to the public: "I [Judge Beaudry] didn't realize it could be this bad. And the biggest surprise was that the workers were never informed of the conditions they work in. This is of great consequence for we feel that the companies were aware of the asbestos health problems all along" (Tataryn 1979, 55). Countering, the QAMA claimed that applying absolute standards on asbestos would be impossible and, if a standard was set, they would have to receive government aid

[9] This is an interesting argument frequently used by the industry to avoid regulatory compliance. How an asbestos company could move *away* from the source of asbestos is never explained. One must thus assume that such threats were *clearly* empty ones.

to reach it. This despite the fact that just one of those companies, Johns-Manville, had achieved an operating profit of $96,229,000 in 1974 (Anonymous 1975, 2006).

In April of 1976 Judge Beaudry presented his first initial report to the public. Beaudry was appalled at the industry's actions throughout the past decades. He felt they had deliberately omitted safety measures and allowed unsafe working conditions to thrive. He also strongly believed the industry had withheld vital information from workers which led to many deaths. And finally, he felt the industry had time and time again exploited any minor medical uncertainties rather than simply fixing the problems (Consumer and Corporate Affairs 1976):

> Beaudry observed that the asbestos entrepreneurs channelled their industrial health efforts into fighting legal battles against compensation claims rather than into cleaning up hazardous work environments..."The industry seems to think that the number of compensated cases represents the air quality in the work environment. It seems that the [asbestos industry] wanted to prevent the payment of compensation more than the prevention of asbestosis" (Tataryn 1979, 17).

His final report contained 110 recommendations including dropping the dust levels to 2f/cc. The Department of Resources dismissed the recommendations. Minister Jean Cournoyer stated simply "I have other priorities on my mind" (Gibson 1976).

Cournoyer's priorities included promoting international sales of raw fibre and asbestos-containing products. Industrialized countries had begun to use less and less asbestos (APPENDIX A). As such, the industry was forced to shift the focus to its exports to developing countries in Asia, Africa, and South America. Canadian embassies worldwide were charged with the task of finding new buyers. Japan, Chile, India, Cuba, Korea, Nigeria, China, Brazil and many others offered new

market opportunities. The Canadian government continued to cooperate with the industry in diverting attention away from health issues to ensure that the asbestos export business was unrestricted in its endeavours. Even organizations like the Canadian International Development Agency (CIDA) were commissioned to help provide grants to ensure expansion (McKeown 1988).

The push in industrialized nations towards using alternatives for asbestos was due in part to the active research of the International Agency for Research on Cancer (IARC), a branch of the World Health Organization, and the International Labour Organization (ILO). An international conference sponsored by these organizations in 1972 had again definitively shown that all major types of asbestos, including Canadian chrysotile, caused various cancers including mesothelioma (Bohlig 1973).

While the federal government did all it could to avoid the health issues, provincial governments were taking a different approach. Several provinces had decided to take matters into their own hands and adopt some of the regulations that had earlier been enacted in the UK. However, it proved much simpler to do this in those provinces like Saskatchewan that did not have asbestos deposits as a natural resource. Asbestos-rich provinces or territories like the Yukon had a much harder time saying "no" to industry.[10]

With all of this controversy going on, it was still difficult for the average Canadian worker to find out the facts about the substance they were working with. Often they found out only through word of mouth from international sources like

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[10] Clinton Creek, Cassiar Asbestos' operations in the Yukon, became one of the chief offenders in deceiving its workers about risk. Paul Formby, a worker there described that "they [the management] assured me that the white asbestos found in Canada was so safe I could pour it on my breakfast cereal

magazines or through friends. Government and industry officials did not inform workers there was a danger to anyone working with asbestos, not just miners (Sentes 2001, 326). At the same time, governments were threatened by the asbestos industry when the issue of lowering dust levels was brought up again in discussion. The QAMA repeatedly warned the federal government that if levels were too low they would simply have to shut down all the mines and plants. When the health question was raised industry always pointed to the outdated data and reports which had been produced by their own institutes like the IOEH. They still claimed that the links between cancer and ill health were sketchy at best and that any problems that had existed in plants had been dealt with adequately. And the old mantra continued: blame South African crocidolite, not Canadian chrysotile.

In the meantime, while Canadian corporations were again dodging the health bullet, new reports were being released on the indirect health effects of asbestos on mining and manufacturing communities. It was revealed that not only were those who worked in the plants at risk, but so too were those who came in contact with them ranging from family members to hair dressers to friends who were exposed to the dust found on the workers' skin and clothing (International Agency for Research on Cancer 1987). However, the industry hoped to dodge the issue once again when an unexpected ally came on board the asbestos bandwagon: Le Parti Quebecois (PQ).

During the election campaign of 1976 the PQ had ruthlessly attacked Premier Robert Bourassa on his apparent mismanagement of the asbestos industry in Quebec. They felt there needed to be more processing being done within Quebec rather than

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every morning and suffer no ill effects." Selikoff's examination of the operations revealed dust levels 45 times the legal fibre limit. (Tataryn 1979)

exporting all of the mined asbestos. They also felt that better working conditions were needed for workers. Upon being elected, Premier Rene Levesque said he was looking to change the industry within Quebec stating that "The Parti Québecois government ...[had] chosen to nationalize Asbestos Corporation (owned by General Dynamics Corporation of St. Louis Missouri) over other asbestos companies because of its lamentable environmental health record" presumably to show Quebec workers how they could clean up the industry (Tataryn 1979, 50). Workers were enthusiastic that finally their health and welfare concerns might be recognized. Unfortunately, that is not how the PQ agenda unfolded.

In the first months of their mandate the PQ appeared to be doing well by workers. Asbestos compensation improved for victims and their families. However, the PQ then began to claim that the only way to truly ensure the health and economic well being of Quebec asbestos workers was to gain greater control over the industry itself. Levesque fought for, and succeeded in, gaining control over the Asbestos Corporation and several other companies. Those companies were amalgamated and the Crown corporation Société national de l'amiante (SNA) was created. The industry was worried that, as a result, new regulations protecting workers' health might be put in place. They had little to fear. The PQ began to realize just how profitable the industry was. While the rest of the world was cutting down their use of the substance dramatically, Quebec started out on a mission to rehabilitate the magic mineral, a move that surprised many observers:

> The thing that amazes me [William Johnson, Globe and Mail correspondent for Quebec] is that they need to do this. Who wants an asbestos mine anyway? If you own an asbestos mine the best thing to do would be to sell it...This is a lousy industry to be involved in. It's

> got all kinds of health problems associated with it. They're getting into this sick industry – sick in the sense that it makes people sick. There are strong attempts going on all over the world to find a substitute for asbestos (Johnson 1978).

In the late 1970s and early 1980s demand for the mineral in the international market dropped considerably. Exports fell from 617,595 tons in 1976 to 229,079 tons in 1982 (Clifton 1980). Even multinationals like Canadian Johns-Manville and Turner & Newall were "abandoning the mineral, [while] Levesque's separatist government was embracing it" (Sentes 2001). The climate was becoming much colder for asbestos world-wide yet Quebec refused to take heed of the many warning signs appearing. Suddenly the PQ had adopted the view "that asbestos was no longer as hazardous as it used to be under the Liberal government" (Sentes 2001).

By 1980 the health worries had extended beyond asbestos workers to the general public at large. Buildings which had been sprayed with asbestos insulation were crumbling, contaminating the atmosphere in schools, hospitals, universities, and many government buildings. The federal government set out to remove asbestos from as many buildings as possible, until the money ran out.

The PQ government was not about to give up though. The QAMA went on yet another publicity spending spree using everything they could to help protect the reputation of the magic mineral. The information given to the public by the likes of J-M included many questionable claims: that the industry had never withheld information from workers; that smoking was the real villain for workers, not asbestos; that the industry was a victim of media manipulation; that the government was really to blame for past exposures; and that the industry didn't know until 1964 that people other than miners were at risk (Anonymous 1982). Companies even used their own

workers in the campaigns getting them to tout the virtues of asbestos for all to see. Their biggest attack, however, came in the shape of the 1982 World Asbestos Symposium held in Montreal.

The conference invited representatives from 46 countries who either produced the substance or imported it from Canada. Critics of the industry hardly felt it was an objective gathering. Organizers were highly selective in choosing their participants. Critics in the field of occupational health and safety were refused entry and the only union representation allowed was the United Steelworkers of Quebec who had supported the industry under Premier Levesque's leadership (Sentes 2001, 327-332).

The dialogue, according to attendees, consisted primarily of industry members rejecting any economic or medical analyses that favoured banning asbestos and the QAMA decrying the injustice and discrimination they had suffered at the hands of critics (Sentes 2001, 327-332). Canada's Herb Gray attacked countries who favoured bans, saying that they were "creating economic uncertainty for investment [and] distorting national trade" (Sentes 2001, 331). Dr Selikoff, present at the conference, was also attacked for causing unwarranted social and economic panic by criticizing scientists who withheld medical information on the effects of asbestos. At this point there was little discussion over the export of asbestos to the third world because, as the SNA president stated, "The question of health does not appear to be a concern 'in some countries where the life expectancy is only 35.' In these areas of the world, 'most people die by age 35 of other causes than old age or of a cancer that takes 35 or 40 years to grow'" (Anonymous 1982).

In the meantime, Quebec was being plagued by U.S. lawsuits. The costs for the industry continued to rise and some companies decided to simply quit while they were ahead. In August of 1982 Johns-Manville, a pioneer of the industry, was one such company. Having been locked out of their insurance policies by their providers, the company and its twenty subsidiaries declared Bankruptcy under the US's Chapter 11 and quite suddenly were no longer in the asbestos business (Thébaud-Mony and Herman 2000). The climate for asbestos use was beginning to shift and new strategies were needed to keep the industry alive. Those new strategies, explored in the next chapter, came early in the 1980s and played a significant part in why a WTO challenge would be launched many years later.

Chapter 3 – The Canadian focus shifts to Third World markets; the events preceding the French and European bans on chrysotile asbestos

> *There are many ways to die...Asbestos can kill you through its physiological effects, but it also can contribute to you killing yourself. It's something that is there 24 hours a day, with every breath you take. Every single breath. Every breath you take you are reminded of your mortality. Some days it's worse. Some days it's better. It's a tremendous stress to place on a man, on his family, on his children. It's an incredible stress. That's what we're talking about banning.*
>
> *-Ray Sentes (Robson, 1987)*

This chapter focuses on government and industry actions throughout the 1980s and 1990s designed to rehabilitate asbestos' public image and locate new markets for the substance. Those markets were found primarily in developing countries. The relevance of this information becomes clear upon reviewing the events leading up to Canada's challenge of the French ban. As industrialized countries begin to ban chrysotile, the message about its hazards is implicitly sent to Canada's only remaining markets: the developing countries of South America, Africa, and Asia. This and other motivations, such as the desire to quell conflicts with Quebec over asbestos, are explored as possible precursors to the launch of the WTO challenge.

Rehabilitating asbestos

With his election in 1984, Brian Mulroney became the champion of Quebec by pushing for the rehabilitation of asbestos. His rehabilitation project also saw the creation of the now infamous Asbestos Institute (AI). The Institute, industry-run but funded by provincial and federal governments, hired the former Quebec Minister of

Social Affairs, Claude Forget, as its new acting head. The AI, supported by Marcel Masse, the newly appointed Minister of Energy, Mines and Resources, was quick to set out on its mission to establish new markets where asbestos had either not yet been introduced or was found in relatively scarce amounts. Several missions to Third World countries were undertaken to extol the virtues of the magic mineral.

Officials from these countries were also flown to Canada to be shown how effectively and "safely" asbestos mining could be performed. However the examples given on how to safely mine asbestos were completely irrelevant to those visiting officials. They import Canadian chrysotile for precisely that reason: they don't mine it themselves. "When foreign journalists or diplomats tour the mines…they're bringing back to their countries information relating to mining, not to use…And they're going to use it, not mine it." (Schiller 1999). Canada also used the opportunity to try and refute any of the anti-asbestos information that was being disseminated by other countries. In addition, the Federal government provided the Asbestos Institute with $8 million to try and find new asbestos products (Reunion du Comite Ministeriel Consultatif de l'Industrie de l'Amiante 1986).

However on January 29 1986 the asbestos lobby hit another snag. The United States Environmental Protection Agency (EPA) proposed a ban on all asbestos products, including Canadian chrysotile. The Canadian government was now forced to refocus its efforts on North America rather than abroad. That year, Brian Mulroney's government produced a "Communications Strategy on Asbestos," designed to help the AI thwart American efforts to ban the deadly substance (Government of Canada 1986).

One of the many tactics of the AI was to criticize the EPA by claiming they were being reactionary and creating unwarranted hysteria amongst the public:

> I [Gary Nash, President and CEO of the Asbestos Institute] believe that your proposal is unjustified and lacking in scientific foundation. Whatever your motivation is for this proposal, it is not concern about worker and public health and safety...If you were really concerned about asbestos health effects you would be devoting your attention to ensuring safe handling of existing asbestos materials in buildings. So far your efforts here have done far more harm than good . . I have strong feelings about EPA's approach to its asbestos rulemaking. I make no apology for that. The consequences of your actions are too tragic and your accountability too minimal for me to feel otherwise (Nash 1986, 3).

In addition, Canada also claimed that a ban would deprive the Third World of this useful substance and would cause undue death and hardship: "To the extent that these countries [those using asbestos] follow the EPA approach and are deprived of cost efficient A/C [asbestos-cement] products, EPA must take responsibility for the misery and death that will follow" (Nash 1986).

When the EPA rejected those claims, the Canadian government decided to launch a challenge in the Court of Appeals in New Orleans. After a drawn-out series of hearings the ban was overturned in October 1991 due to an apparent lack of evidence that the substance posed a significant risk to health. The officials on the case were heard to say that more people would die swallowing toothpicks than would be saved by a ban (AIA 1991).

Having quelled their domestic problems and overturned the EPA ban, the asbestos industry set out once again to inform the world of the indispensability of the magic mineral. Canada resumed pushing the "controlled use" of asbestos while

simultaneously denouncing any man-made mineral fibre substitutes (MMMFs) (Asbestos 1986).

Exporting Cancer

Canada had shifted its focus to marketing asbestos as an indispensable tool for development in the Third World. However, the industry had hit a snag in trying to find the new markets they had hoped for in the Third World. This was, in part, due to the lack of foreign currency in those countries with which to purchase Canadian asbestos (McKeown 1988). To remedy this the asbestos industry worked side by side with the World Bank, IDA, Inter-American Development Bank, IFC, African Development and Asian Development Banks to help fund specific development projects which frequently involved the use of asbestos products. Canada's own CIDA financed many projects involving the use of asbestos (McKeown 1988). Most of these organizations had few or no guidelines for approving proposed projects. This meant that no environmental impact or public health assessments were done prior to approving the various projects. Obviously, the health risks involved in pursuing these endeavours were not examined.

Canada, along with the above-mentioned organizations, began to take part in the controversial practice of tied aid: assisting countries on a contingency basis requiring that they use Canadian asbestos and asbestos products in their development programs. By 1989, Canada was selling "more than 700,000 tons a year to a hundred countries and much of our $400,000,000 business goes to the third world as a potentially hazardous ingredient in cement" (W-5 1989). Many of these countries had highly questionable environmental, human rights, and public health records to

begin with. Canada was exporting a carcinogenic mineral to countries that were not only unschooled about its risks but, in addition, would have little recourse even if they were to become informed of the risks.

Around this time the practice of exporting asbestos to the Third World finally began to be pushed into public view by the Canadian media. Reporters began to question the morality of shipping the deadly fibre to countries where few resources existed to protect workers as a 1989 CTV documentary showed:

> Jim Reed (W-F reporter): The ties between industry and government have been extremely close. So close that the AI has written letters on government stationery. It's all part of a push to increase exports...Critics question the government ethics in promoting asbestos abroad...Have we been led down the garden path by our governments all these years, have we been lied to?
> Ray Sentes (Regina political scientist): Absolutely. We have not been told the truth. I'm ashamed at the lack of humanity of our federal government and the government of Quebec... (W-5 1989)

The Federal government countered these attacks in the media saying it was a paternalistic attitude towards development to suggest that these countries were ill-equipped to deal with the fully "controllable" substance (Cahill 1988). The government also suggested that the industry be trusted enough to ensure that adequate safety measures were in place before giving a country their product. Nearly twenty years later this voluntary initiative has yet to be implemented.

All across Middle Eastern, Asian, and Latin American countries the use of Canadian asbestos was going largely uncontrolled, by even the lowest of considered standards. Investigations of so-called top-quality plants in the Third World revealed deplorable conditions. Raw asbestos was found in the air and on the floor of plants, contaminating clothing, water, and food. Workers were spending their days in hazes

of dust with little or no ventilation or respiratory protection. Workers then took home their contaminated clothing to their families who, in turn, breathed in the same deadly dust. The industry seemed unable to explain these conditions:

> Jim Reed: In North America workers may be more closely monitored and take more precautions. Most Third World countries can't afford the expensive technologies to safeguard workers. At this church in the Philippines a W-5 crew spotted chrysotile asbestos lying around on the second floor which was under construction. It was hanging from the rafters creating a potential danger zone of airborne fibres.
> [to Jean Dupéré, president and chairman of the AI in 1989] Asbestos was being used, it was lying around and it was obvious that it wasn't being handled safely. That's right now, 1989,1990.
> Jean Dupéré: If asbestos was being installed and worked upon in an open condition like that, I do think that there's some irresponsibility of not taking the proper means before working in place. And I don't think that kind of condition should exist in 1989...18...1989. (W-5 1989)

Not surprisingly, even though the industry had become aware of these conditions, exports to the Philippines continue to this day (Anonymous 2001, 34).

In other cases it was not simply brought home to families, but families were brought to the fibre as women and children were found working in various manufacturing capacities[11] (Biswass 1985). In some cases, like in China, prisoners were forced to work in asbestos mines while serving out sentences. It became known amongst Chinese prison workers that being given any sentence which required work in the mines was tantamount to receiving a death sentence. "In 1995, Chinese dissident Harry Wu surreptitiously visited and photographed China's largest asbestos mine, in a prison camp in the mountainous Sichuan province. 'I told the prisoners that they have been given a death sentence' Wu says" (Cauchon 1999).

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[11] Dr Jock McCollough has recently revealed South Africa's Cape Asbestos' practice of employing women and children to separate the fine asbestos fibres from ore. It was believed their small hands

Compounding the risk was the fact that many of the countries using Canadian chrysotile like Singapore, Turkey, or the Philippines were being governed by highly repressive regimes where labour organizers or safety advocates who raise a fuss often "disappear." Reports poured in from around the world, each telling the same story. Though many countries did not record any incidences of illness as they had no compensation systems in place to do so, it was becoming evident that asbestos-related diseases were rising to plague-like proportions (Analysis and Photos 2000).

In 1988 the Canadian Broadcasting Corporation program The Fifth Estate produced a revealing documentary visiting Thai work-sites where Canadian asbestos was being used. The film again showed the telltale dust clouds of asbestos fibres, workers who had no idea that they were working with a dangerous substance, and shocking images of children playing in piles of dust (McKeown 1988).

The Canadian government's response was one of denial. They countered by saying that since they had not received any complaints from workers that there must not really be a problem. But government officials failed to address exactly how workers might go about doing that, given that in some of those countries to do so might mean not only losing their job, but their life as well. Marcel Masse simplistically accused The Fifth Estate and the Canadian public of overreacting to the situation, saying that "it's an emotional thing, people get too dramatic about it" (McKeown 1988). Dr. Selikoff provided the most apt response to those comments: "It's true, I get emotional about cancer. Death and disease are a terrible thing. But even worse is death and disease that can be prevented. We have so many problems,

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were better for this type of delicate work. While this practice was supposedly forbidden in the early 1900s, evidence of this practice occurring stretches well into the 1960s and 1970s. (McCollough 2000)

people have so many difficulties in health that we can't do much about. At least let's not have cancer that we can prevent" (McKeown 1988).

Claude Forget of the AI also claimed that Thai plants had some of the lowest fibre levels in the world, although he provided no data or evidence of any kind to support this claim. Oddly enough, the industry response was to say that the CBC research was faulty because Thailand was not a good example to use because it was not in fact an underdeveloped country and they did, in fact, possess adequate technology and information. This is an assertion that was disputed by Thai officials, including the government official responsible for the regulation of hazardous substances in Thailand: "We don't have the proper equipment, we don't have the trained people. We need specially trained people to collect the air samples, to identify the fibre in the microscope, to count the number and to take the data and to analyse the data, analyse the results" (McKeown 1988). And what the AI failed to realize in making those claims was that they were highlighting the precise problem workers were encountering with asbestos. Even if conditions were "controlled" they were still incapable of producing a safe working environment.

First World awareness turns into political action

While workers in the Third World during the 1990s possessed little power over their own health with regards to asbestos, industrialized nations were becoming increasingly motivated towards the elimination of the use of asbestos and asbestosproducts. As millions of tons of the substance were being poured into the Third World a battle was being waged between Canada and many other First World

countries who felt that the risks of the fibre far outweighed its usefulness (APPENDIX A).

Faced with the information that the asbestos industry had known of the risks of asbestos since at least the 1930s and had committed a collective deception to hide that knowledge from workers, the climate in Canada with regards to asbestos began to change. A growing public unease forced the Canadian government to address some of the concerns over the safety of the fibre, primarily its presence in existing buildings. The government began to move yet again towards removing asbestos from public buildings. It was not, however, the asbestos industry who picked up the costs of removal. Rather, Canadian taxpayers were forced to pay for the mess left behind by the industry. In the cases of private buildings, owners had to pick up the tab themselves even though they might not have been aware of the presence of asbestos when they initially purchased the property.

As the removal project pushed on, an interesting trend began to emerge. Canada, a country which claimed to have the most effective technology for dealing with asbestos, was having trouble "controlling" the dust. Improper removal and handling of asbestos was rampant and numerous companies were fined under the Occupational Health and Safety Act (Vogel 2001). "Controlled use" policy wasn't working for Canada, an industrialized country. Yet the AI pressed on with its assertion that Third World countries would be perfectly able to protect the health of their workers even without access to the bare minimum of technology which Canada possessed.

While the Canadian public was just beginning to understand the extent of the damage which had been exacted on human lives by the asbestos industry, countries in Europe were also realizing that the asbestos issue was not going away. One country which sparked a huge controversy with its anti-asbestos stance was France.

The bans begin

Implementing legislation for the regulation of asbestos was nothing new to members of the European Union. Throughout the 1980s a number of European Commission (EC) directives had been put in place to manage the use of asbestos within Europe. These directives set out regulations on use, banned all types of asbestos except chrysotile, set out guidelines for use of substitutes, and classify the substance as a known carcinogen.

The EU had once embraced Canada's "controlled use" policy but by the 1990s recognized that the program was simply not adequate to fully protect the health of European workers. Existing legislation was too broad and the exemptions allowed under it were too great. In 1993 the EC introduced a draft proposal for a total ban. However, due to disagreements with some of the member countries, it was temporarily shelved. Spain, Portugal, and Greece were all adamantly opposed to any changes to the existing legislation out of fear that there would be too negative an economic impact on their asbestos-cement industries (Schiller 1999).

When Austria, Sweden, and Finland joined the EU in 1994 the political atmosphere with regards to asbestos changed. The three new member states already had asbestos bans in place. A chain reaction had begun. A number of member states now had partial or total bans on all types of asbestos (Iceland, Norway, Belgium

Denmark, Sweden, Austria, The Netherlands, Finland, and Germany) (EC 1999). It was clear that a majority of member states were in favour of a ban. As such, the EC began the process of creating legislation that would effectively ban the use and marketing of all types of asbestos within the entire European Union.

The EC proposed that there be a phasing in of the ban over the course of several years. The suggested amount of time was five years in order to facilitate any technological changes necessary. Another important aspect of deliberations was ensuring that any proposed ban could not be challenged scientifically. The Scientific Committee on Toxicity, Ecotoxicity and the Environment (CSTEE) was thus commissioned to examine all of the information available on the hazards of chrysotile asbestos. Their conclusions, released in two reports in 1998, were not surprising.

They concluded that there was sufficient epidemiological evidence of the carcinogenicity of all types of asbestos:

> A major concern with fibres is their carcinogenic potential. There is sufficient evidence that *all* [emphasis added] forms of asbestos, including chrysotile, are carcinogenic to man. No evidence of fibre-caused cancer occurrence in man is available for any of the three candidate substitutes ... Lung fibrosis is a well-known consequence of chrysotile exposure, but to date no case has been reported in workers exposed to any of the three candidate substitute fibres (Scientific Committee on Toxicity 1998).

Indeed, they felt that, in reality, there were probably far more cases of asbestos-related diseases, especially of mesothelioma, than the EC had data for. The reason for the uncertainty over the number of incidences is that many countries, like those of the Eastern Bloc, have little or no guidelines for diagnosis, no industrial doctors, nor do they have adequate compensation systems. For many years, Central and Eastern European countries paid little attention to the effects on the health of workers of

exposure to asbestos. As such many cases went unreported or misdiagnosed (Machiavelli 1999).

The CSTEE also covered its bases with regards to asbestos fibre substitutes. The EC commissioned Environmental Resources Management (ERM) consultants to evaluate the scientific data on asbestos substitutes. The three primary substitutes for asbestos fibres were examined thoroughly in order to assess the extent of its health hazard. These included cellulose fibres, poly-vinyl alcohol fibres (PVA), and p-aramid fibres. Because some of the fibres had not been in use as long as asbestos it was difficult to see what the long-term effect was in humans. There was, however, no evidence of lung fibrosis or fibre-related cancer occurring with exposure to the three substitutes. "...[I]n the opinion of the CSTEE the ability of cellulose, PVA or p-aramid fibres to induce cancer or fibrosis of the lung in man is likely to be lower than that of chrysotile" (Scientific Committee on Toxicity 1998). After examining the ERM report, the CSTEE determined that the fibrous substitutes were simply not as hazardous as asbestos:

> Thus, both for the induction of lung and pleural cancer and lung fibrosis –i.e. the end opint [sic] [point] conditions investigated to a greater extent –and for other effects, it is unlikely that either cellulose, PVA or p-aramid fibres pose an equal or greater risk than chrysotile asbestos. With regard to carcinogenesis and induction of lung fibrosis, the CSTEE has reached a consensus that the risk is likely to be lower (Scientific Committee on Toxicity 1998).

It is important to note that the CSTEE cautioned that the fact that these substitutes were not as hazardous did not mean that standards should be in any way relaxed.

On the basis of the ERM and CSTEE findings, the European Commission decided to proceed with a new directive aimed at banning all types of asbestos, "...on

the basis of the current knowledge of the science, it was decided to proceed with a proposal for a draft directive which would ban chrysotile asbestos, with certain exceptions and transitional arrangements. This became the directive which has now been adopted" (EC 1999). The ban, ratified in 1999, included the aforementioned five year phase-in period as well as a number of other proposals related to asbestos. These proposals included: new exposure limits, training, education, and information campaigns on substitutes and their risks; an examination of existing compensation systems; special examinations of the military use of asbestos; the promotion of alternative technologies for asbestos waste treatment; and a commitment to look at the acute problems faced by Central and Eastern Bloc countries.

The scope of the ban was extremely wide and offered only a couple of exceptions. The directive called for:

- the prohibition of placing asbestos fibres on the market
- the prohibition of placing products containing asbestos fibres on the market
- the prohibition of the use of asbestos fibres
- the prohibition of the use of products containing asbestos fibres (EC 1999)

The only exceptions allowed in the ban are: when asbestos is found naturally or "not intentionally added;" in approved instances when the fibre is being used for research; when asbestos is being used in diaphragms for chlorine electrolysis; and where the fibre already exists in a building, which means that while there is no punishment for the pre-existence of asbestos in a building, removal is usually suggested (EC 1999).

France

While the EU as a collective entity was venturing towards the total elimination of asbestos France, on its own initiative, decided to look at the elimination of the substance within its own borders. For years, France had been one of Canada's greatest allies in the promotion of asbestos world-wide and imported large amounts of the substance (APPENDIX C). In 1991 the EEC had begun to revise its asbestos regulations with many members pushing for complete bans on the substance

> By 1991…the Community had established a policy of *controlled use* [emphasis added] of asbestos and asbestos-containing products…But during the 1990s an increasing number of Member States have considered the Community's policy to be insufficient to protect public health…Even in 1991, the Commission realised that more needed to be done to restrict the marketing and use of chrysotile asbestos (EC 1999).

While European imports of Canadian asbestos had been declining for several federal officials were becoming increasingly fearful of the effect a European ban might have on their Third World exports. France had always been one of Canada's closest collaborators in the promotion of "controlled use," but that too was beginning to change. Buildings that had been sprayed with limpet asbestos insulation (a mixture of raw asbestos and cement) were beginning to deteriorate (James and Robotham 1993) (Tweedale 1999). Cases of asbestos-related diseases were appearing more and more frequently in people who had not worked in the asbestos industry but who had simply been exposed through its presence in their workplaces (Sentes 2001).

In 1994 the Comité Anti-Amiante was formed to lobby the French Government on the issue of the elimination of asbestos and asbestos products. The

organization made sure that the 1995 national election in France kept the asbestos issue in the spotlight. In 1996 the National Association of Asbestos Victims Support (ANDEVA) pushed the movement even further, demanding compensation for victims as well a total ban on the substance (Thébaud-Mony and Herman 2000). The industry denounced ANDEVA claiming that the main contributing factor to these asbestos-related illnesses was smoking, not chrysotile. But the Asbestos Institute's report would soon be overshadowed by a more important and potentially devastating report on the state of asbestos-related illness in France.

The National Institute for Scientific and Medical Research (INSERM) released a report indicating that asbestos would cause 750 cases of mesothelioma and 1,200 cases of lung cancer in France in 1996 alone (INSERM, 1996). The French government could no longer ignore the issue or the ever-growing public demand for action. Thanks to the INSERM report as well as the massive public mobilization throughout the EU on the issue, the government announced a prohibition on the "production, import, and sale of asbestos-containing products, and most especially asbestos-cement products," to come into effect Jan 1, 1997 (Thébaud-Mony and Herman 2000).

The decision to ban all types of asbestos was a significant blow to the Canadian government and its asbestos industry. It was immediately claimed that "politics and not real science" were the basis for the decision and the Canadian government immediately filed for any possible exemptions from the ban (Asbestos Institute 1996). To combat what they claimed was faulty science, they commissioned the Royal Society of Canada to conduct a critical review of the

information used by France in making its decision. At the same time, in an effort to counter negative international publicity, the asbestos industry yet again increased its lobbying for "responsible and controlled use" of asbestos in the Third World.

Out of that new wave of lobbying emerged the *Responsible Use of Chrysotile Policy:*

> In addition to the considerable resources already dedicated to this important effort and our partnership activities at home and abroad, the Government of Canada has earmarked an additional $500,000 for a number of new initiatives to demonstrate that chrysotile asbestos can be used safely, and to promote the implementation of the responsible use policy towards asbestos (Government of Canada 1996a).

This was a policy that stated that the industry would only supply asbestos to countries/companies that would comply with national regulations on asbestos use (although in some countries, no regulations existed) or submit an action plan on how they would deal with the substance with regards to health and safety. Their action plan included:

- upcoming missions to countries which represent 75 per cent of Canada's export markets for asbestos products;
- consultations with developing countries leading to a Memorandum of Understanding regarding the implementation of the responsible use policy;
- conferences sponsored by the Government of Canada, with participation in international meetings and scientific gatherings to discuss the responsible use of asbestos;
- national and international workshops on the implementation of the safe use of asbestos; and
- communications activities to increase awareness among the public and other levels of Government in Canada and abroad (Government of Canada 1996a).

Yet, as was previously noted, this policy had supposedly been in place in since 1981 and it had failed Third World workers miserably.

Domestically, the federal government was not immune to attack. The Bloc Quebecois began attacking the Federal Liberals for having failed Quebec on the

asbestos issue once again. They claimed they were not actively fighting the ban and as such, were not protecting the Quebec jobs at stake: "Is the Liberal government waiting until asbestos is banned everywhere in Europe and some 2,000 Quebec jobs have vanished before it takes any serious steps to save this industry?" (Chretien 1996). According to the Bloc, this was just another in a string of examples of how federalism had failed Quebec. They also brought up the fact that Canada had not yet brought the issue to the attention of the World Trade Organization (WTO): "When does the minister [Minister of International Trade, Sergio Marchi] intend to file a complaint with the World Trade Organization in order to come to the assistance of the 2,000 workers in the asbestos industry?" (Guay 1997).

On January 16, 1997 the Royal Society critique of the INSERM report was released. It stated that they felt that the risk of mesothelioma from exposure chrysotile asbestos had been overestimated and that for those reasons a ban was unnecessary (Government of Canada 1996b). However, even with those recommendations there was still little consensus on the number of cases of asbestosis and whether or not that alone was enough to warrant action. Prime Minister Jean Chrétien attempted to use the report in his lobbying efforts with the French Prime Minister Juppé but without success (Anonymous 1997).

Facing the very real possibility of the ban coming into effect, Canada eventually raised its concerns at a meeting of the Technical Barriers to Trade Committee at the WTO on February 14, 1997 (ecoasbestos.org 2002). Yet another PR campaign was launched, this time aimed at France and the WTO. This time they claimed that France and been gripped by an unfounded "mass hysteria:"

> The asbestos hysteria that has overtaken France is also the series of legal actions intended to seek out the guilty parties behind this institutionalized laissez-faire. By knuckling under to special interests and doing nothing to set the record straight, the French government has given more power to the lobby groups and allowed a climate to develop in which discussion is all but impossible (Asbestos Institute, 1997) (Editorial 1997).

To prove how unfounded the concerns over health were they even had Quebec asbestos workers enter the French marathon to show the harmlessness of Canadian chrysotile.

> Mr. Speaker, I want to acknowledge in this House the courage and determination of the four miners from Asbestos who ran in the Paris marathon last weekend.
>
> In so doing, although they were ignored by the French press, they wanted to create awareness about how safe asbestos really is when used properly. These four miners have demonstrated that the physical ability of workers is in no way affected by exposure to chrysotile asbestos fibres, partly because of the very high health standards in the industry.
>
> I salute their action and encourage any such activity aimed at convincing the French people that this matter was blown out of proportion (Hansard 1997).

There was no mention of how long the workers had been working in the mines. As such, there was no indication of whether they had been working long enough to have begun to develop asbestos-related illnesses due to their long latency periods.

The Canadian government also tried more subtle ways to sway EU officials to back away from a ban on asbestos. In February of 1997 a Canadian "Mission to the European Union" took place (Juneau 1997). It was presented as an opportunity to review the relationship between Canada and the EU as well as look at ways to strengthen co-operation between the two. Canada presented an "Action Plan"

wherein they suggested that it would be beneficial for all involved to take part in a sharing of information. The seemingly innocuous Action Plan suggested a number of joint studies on the free movement of goods, services, and investments. It also suggested that it be used to establish dialogues and multi-lateral agreements between Canada and EU Member States. Their agenda was revealed, however, when Canada suggested that it would be most beneficial to use this new co-operation to "resolve certain bilateral issues…for example, the prohibition of asbestos" (Juneau 1997).

Several other countries mining and exporting asbestos like Russia, Brazil, and India joined into the lobbying effort. Those asbestos producers expressed their dissatisfaction over the proposed ban in the "Aide-Memoire on Chrysotile" of March 1998 c. In it they stated that they felt an EU ban would not help the situation since it would not effectively deal with pre-existing asbestos in buildings. This reasoning was fairly specious given that the EC had clearly stated that they were not concerned with pre-existing asbestos, but with the risks of new exposure from imports and production.

Canada also expressed concerns that a ban would "Unjustifiably penalize today's chrysotile based products and uses which are safe and efficient and have no bearing whatsoever with past uses and products" (Dauster et al. 1998). In addition it "would only increase public concern as experienced by several countries that have banned or attempted to ban such as France and the United States (Dauster et al. 1998). Apparently increasing public awareness about asbestos issues was something the industry was not keen on having happen. Indeed, they admitted they feared that European bans would create a domino effect in which other countries would begin to

question the safety of the fibre (Dauster et al. 1998). One would assume the countries Canada had in mind were those developing countries that were importing Canadian chrysotile.

However, the most incredible claim made in the aide-memoire was that asbestos is a naturally occurring substance and as such, should not be banned:

> ...the signatories believe that this approach [controlled use] should be adopted for all minerals and metals throughout their life cycle as opposed to the promotion of world wide bans of these natural substances. Such natural substances should not be candidates for bans as they are an integrated part of the environment and the ecosystems in which humans live (Dauster et al. 1998).

However, yet again, the French ban clearly states that naturally occurring asbestos is also exempt.

However, despite all this lobbying it appeared that France would not alter their stance on asbestos and by that time already had the support of the European Union on their side. As such, Canada felt it had only one avenue to be pursued. In July 1997 International Trade Minister Sergio Marchi began the process of initiating actions at the WTO. On May 28th of 1998 the formal announcement was made that the issue would be officially dealt with at the WTO through a dispute settlement panel.

Canada's decision to utilize the WTO's structures in this matter was likely influenced by the fact that trade has so frequently taken precedence over questions of health and environment in other cases. An Asbestos Institute release on the subject suggests that "[o]ne of the fundamental purposes of the WTO is precisely to discipline the resort to politically popular trade restrictive measures adopted in response to protectionism and other popular causes, such as environmental, health or

safety concerns" (Asbestos Institute 2000). As such, France's refusal to reconsider their decision apparently warranted a WTO challenge. Nonetheless, choosing to use the costly Dispute Settlement process is a gamble. The following chapter will demonstrate that the process cannot be relied upon for consistency in its rulings.

Chapter 4 - The WTO, the Agreement on Dispute Settlement, and the Asbestos Case

> *The official 'safe' exposure level has been lowered in fits and starts. Since the early 1900's, asbestos workers have been repeatedly assured that existing standards protected their health. Each time, diseased and dead bodies suggested otherwise. After each tragedy was uncovered, another official 'safe' level of exposure was pronounced.*
>
> *-excerpt from Dying for Living (Tataryn, 1979)*

The asbestos case has generated optimism that the public can now view the WTO as more responsive organization. However, a closer examination of the Dispute Settlement process itself and the manner in which it was applied in the asbestos case reveals several challenges to that assertion. There are several inherent structural flaws to the process which create obstacles to anyone defending public health at this forum.

First, the economically driven mandate of the WTO raises questions of which interests take priority at this level. Second, the selection process of panelists and the hearing process prove problematic for "objectively" discussing complex scientific and medical issues. Close scrutiny of the rulings also reveals several problems: justification for the grounds upon which the case was filed remains unclear; no edification is provided on how the agreement on Technical Barriers to Trade applies to the asbestos case or how it might apply to others; the rulings do not clarify precisely what measures are considered permissible for protecting public health under WTO rules. As such, one must question why they did eventually decide to allow the ban to stand.

To begin this chapter I will review the above-noted procedural concerns with a view to explain why the process may not be relied upon for dealing with health or

environmental matters. This is facilitated by the use of first-hand accounts of the scientific hearings for the asbestos case. Also included is an analysis of the reports of both the Dispute Settlement Body and the Appellate Body. In the latter part of this chapter I will then present the argument that another factor was more important to the final outcome of the case: namely the rise in public pressure on the WTO which precipitated the decision. It is my contention that the recent rise in mass civil protest movements, the "Seattle Factor," played a significant role in influencing the DSB and AB into making this decision – a decision that could potentially improve the WTO's public image.

New rules for the world of trade

When the Uruguay round of GATT negotiations concluded in 1995 a powerful new instrument of international trade emerged. Many observers of the process predicted that the newly created World Trade Organization would possess unprecedented powers, changing the way in which the game of international trade is played. However, few were able to see just how far-reaching these new powers would be. Numerous side agreements emerged that extend corporate power into every realm of government and the public interests (such as the Agreement on Agriculture, the Agreement on Subsidies and Countervailing Measures, and others mentioned below). Those agreements, and the subsequent mechanisms designed to enforce them, have become nearly insurmountable obstacles to those involved in the fight to protect public health and safety, especially for those involved in the anti-asbestos movement.

The formation of the WTO on January 1st of 1995 signalled a dramatic change in the way member governments create and maintain policies designed to protect the environment and public health. No longer is an individual government able to determine the level of protection to be maintained within a country's borders. Rather, a new set of 'international standards' ratified through a variety of WTO agreements is imposed on each of the member states and any new policies must fit within those guidelines. These standards can greatly impede the ability of a sovereign state to protect the public interest of its citizens.

Though all agreements within the WTO hold a great deal of significance with regards to civil society, there are three in particular which are relevant to the asbestos case and public health cases in general. The first is "The Agreement on Technical Barriers To Trade" (TBT) (Shrybman 1999, 11). The purpose of this agreement, like most WTO agreements, is to create regulatory uniformity amongst member states through the harmonization of standards and regulations. Under the TBT a government's product standards must be the least restrictive possible according to international standards (Wallach and Sforza 1999, 32). It is worth noting that these standards have not been adopted through any agreements other than those signed through the WTO. As such, any pre-existing agreements are no longer applicable. An examination of the "Agreement on Sanitary and Physo-Sanitary Measures" (SPS) below will provide an example of how these standards are set and through which bodies.

What the TBT does is essentially create a regulatory ceiling to help achieve global market harmonization without creating a floor. Thus, a country that creates or

maintains domestic policies which "excessively" restrict trade is required to erode those policies to meet the lowest common standard. This, rather than having a country with lax environmental or public health policies raise their regulatory standards to meet those of another countries. The result is that it becomes nearly impossible for a country to implement progressive policies in health and environmental sectors for fear that they will be challenged at the WTO because more often than not those standards will be higher than the aforementioned international standards. It's a harmonization 'race to the bottom' which erodes the ability of sovereign states to decide what level of protection it can offer its citizens.

Another example of the race to the bottom can be found through the aforementioned SPS agreement. This particular agreement is similar to the TBT, but it deals specifically with the regulation of agriculture, food, and food safety. Again, the WTO has laid out its own set of international standards which cannot be surpassed by member states (Wallach and Sforza 1999, 41). Under the SPS any potential food safety law must pass a strict set of criteria before it can be considered to be "WTO-legal" (Wallach and Sforza 1999, 40). The process of risk assessment is again based on the WTO's perception of what is an adequate level of protection for a member state to adopt. "Zero tolerance" standards based on the concept of the precautionary principle are not acceptable.

"Acceptable standards" are those which have been determined by two specific international bodies. Their decisions govern the policy-making initiatives of all 144 member states. The first organization is the Codex Alimentarius, which governs food and food safety, the second is the International Organization on Standardization (ISO)

which governs technical, production, and environmental standards. The two bodies are almost entirely dominated by industry interests. Indeed, the ISO operates strictly for the private sector and both bodies' operations are confidential and closed to outside scrutiny. The existence of these bodies and the requirement of the WTO that all member states adhere to their codes, places the burden of justification on those who deviate by applying higher standards.

Confidentiality and non-disclosure seem to comprise the mantra for the WTO. This "organization for the world" consistently restricts public access to its operations and closes its decision-making process to the public. The best example of the WTO's clandestine nature is found in the final agreement relevant to the asbestos. The "Agreement on Dispute Resolution" ensures that dispute resolution, which often has far-reaching ramifications, remains a highly confidential process.

The Dispute Settlement Process

Any dispute between member countries about domestic policies can now be challenged and brought before a WTO dispute resolution panel. The WTO has attempted to mimic a traditional judicial system with the establishment of three bodies to oversee the dispute settlement process: the Dispute Settlement Body (DSB), Panels, and the Appellate Body (World Trade Organization 2001). However, as we will see in examining the asbestos case, the similarities between the WTO system and any domestic judicial systems end at its structure alone.

The process is best summarized as follows:

> When a state complains about the rules or practices of another state, a consultation procedure is opened. If they fail to reach agreement within 60 days, the DSB appoints a panel, which has six months to

> draw up a report after hearing evidence from the parties in dispute and any interested third countries. This report is sent to the DSB, which can adopt it or reject it. It can only be rejected by unanimous vote of the DSB...Either side can appeal a panel's ruling. This procedure has to be completed within 90 days. The Appellate Body deals with points of law only. The Appellate Body's report may be adopted by the DSB or rejected by unanimous vote of its members (Vogel 2001, 20).

Once a decision has been made, the country found at fault is given a limited amount of time to change the policy or regulation in question. This essentially grants the WTO and the corporate interests they represent power over a sovereign state's domestic laws. Rulings are automatically carried out unless there is a consensus of opposition among member states (Shrybman 1999, 4). Failure to comply with a panel's ruling can result in the implementation of immediate, and highly effective, trade sanctions on the violating country. These sanctions do not require the consensus of member states in order to be imposed. Interestingly, removal of these sanctions does require consensus.

Many observers are highly critical of the dispute resolution system and its procedures due to the aforementioned lack of transparency and public accessibility. The panel itself is composed of three to five members chosen by the WTO secretariat and the DSB. Nominated members can only be opposed by the involved parties for "compelling reasons" (Wallach and Sforza 1999, 23). Requisite qualifications for being on a board have nothing to do with experience in the possible scientific, environmental, or medical subject areas being disputed and have a great deal more to do with patronage and ideological support for the tenets of the WTO. To be on a panel one must either have: served on a GATT panel; previously represented a party in a dispute; served as a senior WTO trade policy official; or have

teaching/publishing expertise on international trade law or policy (Shrybman 1999, 24).

As mentioned, panel members are not required to have any experience or knowledge in the area being examined, nor are they required to consult with outside experts in the field. This can be especially problematic in cases where the issues being examined are not strictly of an economic nature and where knowledge of the subject area is crucial to the understanding of policy decisions. In the rare cases where outside advice is sought, the names of those consulted are only released once the final report has been completed, thus preventing the public from objecting to the choice of certain "experts."

Also questionable is the fact that there is no mechanism in place to ensure the absence of conflicts of interest for chosen panellists. Rather, it is a policy of voluntary disclosure, the dubious practice of "don't ask, don't tell" (Wallach and Sforza 1999, 24). The bottom line is that dispute resolution panels are inevitably composed of economists, trade professionals and corporate interests who are under no obligation to reveal potentially damaging affiliations with the industries which may be in question.

This trend continues with the selection of members of the Appellate Body (AB), the only venue for appealing a decision. Again, the expert panel members appointed by the DSB members are required only to have expertise in law or international trade policy and not in the subject areas being examined. Even representatives from disputing states are generally from all-trade backgrounds having little knowledge in areas of health or the environment.

Questions about transparency continue as all proceedings and party submissions to the DSB are confidential unless released by the submitting party. The hearings, held at the WTO's Geneva, Switzerland headquarters, operate under the Uruguay Round Dispute Resolution Understanding (DSU) which comprises "only one operating rule: all panel activities and documents are confidential" (Wallach and Sforza 1999, 22). All meetings of the lower panel and Appellate Body are closed sessions. As such, there are no opportunities for outside observers or even other member states to challenge the information being presented to the panel.

The combination of the above mentioned factors clearly means there is little room for scrutiny by outside experts and no room for public involvement in the decision-making processes. Yet the results of these proceedings frequently extend into every aspect of public life. Also worth noting is the fact that legal precedence plays no role in the dispute resolution process. Theoretically one panel finding can be entirely contradictory to a previous one even if virtually all the same variables are at play (Shrybman 1999, 17).

Critics have every reason to be sceptical or even fearful of the process. WTO dispute resolution panels have consistently found in favour of private interests over public concerns involving health and the environment. In a traditional judicial process the burden of proof would belong to those who have instigated the challenge. However, at the WTO level the burden of proof rests heavily on the side of the country being challenged to prove that there is a significant enough risk to health or the environment. That country must then succeed in the task of demonstrating that a regulation is both "necessary and the least trade-restrictive" (Shrybman 1999, 82). By

1999 twenty-two cases had come before a WTO panel and only three panels had ruled in favour of public health or the environment. This track record most certainly means that governments challenging progressive environmental or public health policies can be more than optimistic when taking their cases to the dispute panel. One such exemplary case to be brought before the WTO was the case of hormone-treated beef.

Rejecting the precautionary principle: the case of hormone-treated beef

Dispute settlement bodies have consistently ruled against all the food safety or quarantine laws that have come under WTO review on the grounds that they were more restrictive to trade than was necessary to be effective. The beef case was no exception. In 1996 the United States (joined by Canada, Australia, and New Zealand) took issue with a European Union ban on beef treated with artificial hormones (U.S. Interagency Task Force on Beef Hormones 1999). Despite the fact that this ban, since its implementation in 1988, was being applied in a non-discriminatory fashion both to domestic and imported beef, international cattle producers felt the ban was unreasonable and unfair. The American government felt that the ban violated the prior 1994 GATT Agreement as well as the SPS Agreement by not following the regulatory guidelines for health, food, and safety decisions prescribed by the Codex Alimentarius (Shrybman 1999, 13).

The EU had based its decision to ban these products on links that had been made between exposure to artificial hormones and various types of cancer, as well as premature pubescence in females (Wallach and Sforza 1999, 42). While the risks from exposure through beef consumption have not been conclusively measured the

EU felt that given the scientific evidence on the more general risks of artificial hormones that a zero-tolerance approach eliminating the risk altogether was most appropriate. Indeed, even Canada's own toxicologists objected to the use of the hormones in this situation (Ward 1999). [12] However, significant risk or even probable risk is not deemed an adequate justification, according to WTO and SPS agreement rules. The EU decision to follow through with a zero-tolerance policy raises another important issue with regards to the WTO's approach to health and environmental issues, namely the importance, or lack thereof, of the precautionary principle.

In 1998, the WTO announced that the EU ban on artificial hormone-treated beef was illegal, for its implementation did not follow the WTO guidelines for risk assessment. Again, the WTO made a move towards the harmonization of safety standards to the lowest common denominator. The EU was ordered to begin importing US beef again by May 13, 1999. When they refused to comply, the United States requested that retaliatory sanctions on European-made products be implemented. The WTO agreed and the EU has now been forced to "absorb $115 million a year in WTO-authorized trade sanctions" (Wallach and Sforza 1999, 20).

These types of far-reaching, and oft-considered harsh, punishments imposed upon countries who are unsuccessful in the dispute resolution process have created what has been called by some a "chill effect" (Barlow and Clarke 2000, 80). This could result in fewer developing countries being willing to put in place progressive policies or legislation for fear they may face a WTO challenge. Poorer

[12] This later become a scandal as it was revealed that Canadian scientists has been coerced into changing their opinions on the issue. See (Ward, 1999)

member states have fewer resources with which to defend themselves in a challenge. In addition, the financial costs may be too formidable for those countries to contemplate should they lose and be faced with sanctions, compensation payments, or having to change the applicable laws. Given the aforementioned history of WTO rulings in favour of business this is a very real fear for developing countries. The result may be that many countries will assess that it is simply not worthwhile to put in place progressive regulation if they will only have to change it in the future at a much higher cost (Barlow and Clarke 2000, 80). Given all of this, it is little wonder that anti-asbestos activists approached the WTO process with a high degree of trepidation. Nor would the experience of the process itself fill them with optimism for the outcome.

The asbestos case comes before the WTO: the scientific hearings and the application of GATT and TBT agreements

Canada initiated the asbestos challenge on October 8, 1998, backed by Brazil and Zimbabwe.[13] The European Union was backed by the United States.[14] After consultations the WTO panel was chosen and scientific hearings were scheduled. This would help to determine if the ban was the "least trade-restrictive" method of ensuring the protection of human health. While the entire process was kept confidential and no documents were released until completion of the final report,

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[13] Brazil was extremely secretive about its support for Canada. While it is one of the world's largest producers of asbestos, there is a strong trade union movement which is anti-asbestos. Several states in Brazil have also banned the substance. Brazil's own environment minister was not in favour of supporting Canada.

[14] US involvement was somewhat confusing. They supported the ban, largely because of the overwhelming number of asbestos-related lawsuits which continue to plague the US. The failure of "controlled use" has proved costly in America. But the US also had their own trade-based motives for supporting Canada. Laurent Vogel suggests that the US "was hoping that conceding the case for the

several insiders have provided information on the process. One such insider was environmental consultant Dr Barry Castleman of the United States. A longtime expert on asbestos issues and activist in the movement to ban the substance, he was asked to join the EU team at the scientific hearings. Dr Castleman has provided a detailed account of the hearings and related procedures in numerous presentations resulting in the publication of *WTO Confidential: The Case of Asbestos* (Castleman 2000).

The scientific hearings were to consist of testimony to the dispute resolution panel from a group of scientific experts chosen in an elaborate selection process. The methods of selection were extremely secretive. The panel itself comprised Adrian Macey, William Ehlers, and Ake Linden, three decidedly non-experts in the area of public health[15] (Kazan-Allen 2000). The tribunal then requested that various international scientific organizations (the International Labour Board, the World Health Organization, the International Program on Chemical Safety, and the International Agency for Research on Cancer) all nominate experts to testify before the panel. The International Standards Organization was also asked to provide nominations, as were the parties representing Canada and the European Commission.

The nomination process appeared to be biased from the start. In a detailed form designed to outline their credentials for expert status as well as illuminate any possible conflicts of interests, nominees were required to disclose if they had ever had any involvement with public interest groups who had declared their interests either

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asbestos ban would also gain recognition for the TBT Agreement principles, which would enable them to question European rules on work equipment rules [sic]." (Vogel 2001)

[15] Adrian Macey was New Zealand's acting Ambassador to Thailand, William Ehlers the WTO's special ambassador from Uruguay, and Ake Linden is a Swedish consultant on trade policy matters.

way on the issue. Members of Irving Selikoff's Collegium Ramazzini, which had called for a world-wide ban, were immediately dismissed from consideration and "Canada even objected to one scientist because he was on the editorial board of one of the (twelve) journals that published [the] call for a global asbestos ban" (Castleman 2000).

While there was a great deal of focus on possible anti-asbestos affiliations, there seemed to be little interest in whether nominees had ever been associated with the asbestos industry itself. Some of the nominated experts, especially those nominated by the ISO, had known ties to the asbestos industry. However, those who had knowledge of these ties were also nominees for expert status and as such were not permitted to comment on them. Documents pertaining to the consideration of nominees and details of the selection process remain confidential.

The panel finally decided on four scientists, Dr Peter Infante (epidemiologist, USA), Nicholas de Klerk (epidemiologist, Australia), Donald Henderson (pathologist, Australia), and William Musk (pulmonary clinician, Australia). It was Canada who had recommended Dr Infante on the basis that he had written an article in 1994 which suggested that fibreglass, an important asbestos substitute, might be as carcinogenic as asbestos (Castleman 2000). Their strategy in choosing Infante backfired. The Canadian party had failed to realize that Infante, who works for OSHA, had since changed his position having found further epidemiological evidence (from a Canadian study) showing that fibreglass did not, in fact, pose such a risk. Canada's number one witness was actually playing for the other team.

Dr Castleman points out that Infante's selection did not occur by chance. Rather, it happened because the EC lawyer was aware of how skewed the WTO nomination process is. The EC deliberately did not make any comments with regards to their approval of Dr Infante knowing that to do so would most certainly mean he would be rejected from consideration: "the European Commission lawyers declined to state the names of the scientists recommended by the international scientific organizations whom they preferred. The reason was that the European Commission lawyers, who had had much prior involvement in WTO cases, were afraid that this would harm the chances of those scientists' selection." (Castleman 2000).

Once selection was completed, the hearings began. Canada's case rested on the assumption of three basic tenets:

1. That chrysotile is unlike other forms of asbestos and presents no significant health risks when used within occupational health and safety standards
2. That compliance with exposure limits for chrysotile is an effective preventive measure
3. That substitute fibres for asbestos constitute a hazard which has not been adequately assessed (Vogel 1999, 5).

Laurent Vogel points out that individually, the first two tenets defeat one another. If chrysotile does not pose a health risk because it is so unlike its counterparts crocidolite and amosite, then why is compliance to exposure limits necessary? Information and reports cited in previous chapters form the basis for rebuttal in the question of fibre types. In addition, there is "no scientific evidence to show that compliance with exposure limits is itself a sufficient guarantee" (Vogel 1999, 6). However, when examined together, these two assertions form the basis of Canada's "controlled use" proposals.

Throughout the hearings panellists were presented with Canada's proposal for "controlled use" and then heard it refuted by EC representatives (Castleman 2000). The Canadian experts seemed unable to provide any precedent to show that "controlled use" plans could actually work. Indeed, they were barely able to explain what the phrase meant, let alone show concrete examples of where this theory had actually worked. There was no evidence presented to show that controlled use had worked in the First World, let alone the Third World, as Dr Infante pointed out during the hearing:

> Even in the manufacturing sector, just this past October, we fined an asbestos brake manufacturer $125,000 for being over the permissible exposure limit, for not providing respirators, for doing dry sweeping. That's in the United States where we've had an asbestos standard in place for a number of years. So my point is that it may be theoretically possible but it's not practical to think that you can control exposure to asbestos even in the example I gave in manufacturing, and it's certainly less practical to begin to control it in construction (Castleman 2000).

The panel heard debates over the hazards of asbestos substitutes. Those debates were hampered by the fact that panelists seemed completely unaware that there were non-fibrous, as well as fibrous substitutes for the mineral (Castleman 2000). During the process, Dr Castleman indicated that the panelists often seemed unable to understand the complexities of the testimony being given and frequently appeared disinterested "two other Panel members did not disclose the limits of their comprehension by speaking, although one of them was having difficulty staying awake during the afternoon testimony following the 100-minute lunch break" (Castleman 2000). EC participants left the hearings feeling less than optimistic. It was for precisely that reason that anti-asbestos activists the world over were shocked

to hear that on September 20, 2000 the WTO would release a ruling indicating that France, and the EC, would be allowed to go forward with their ban on chrysotile asbestos.

What is important to note, however, is that the decision in the asbestos case could easily have gone in favour of Canada. Dr Castleman points out that although the WTO heard ample evidence to suggest that the notion of "controlled use" was ridiculously unrealistic at best the ruling states that "'It seems possible to apply controlled use successfully' in asbestos mining and product manufacturing plants . . [and] in removal and destruction of in-place asbestos products'" (Castleman 2000). Apparently, the only reason the WTO did rule in favour of France was that the evidence suggesting that controlled use by workers in construction was not feasible was more overwhelming than in the other sectors: "Had there been among them [the experts] just one physician or statistician who thought it 'seems possible' that regulatory agencies in France could properly protect construction industry workers, the decision in the case might have gone the other way" (Castleman 2000).

There are also questions about the grounds upon which the case was filed. Canada's challenge was filed under the Technical Barriers to Trade agreement. This means that Canada's contention was that the ban constituted a technical regulation – a

> …document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method (World Trade Organization 2002b).

As a technical regulation, the ban would have to overcome a number of obstacles presented to it by the TBT Agreement. Canada asserted that the French ban violated the following sections of the TBT:

> 2.1 Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.
> 2.2 Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfillment would create. Such legitimate objectives are, inter alia: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, inter alia: available scientific and technical information, related processing technology or intended end-uses of products.
> 2.4 Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfillment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems.
> 2.8 Wherever appropriate, Members shall specify technical regulations based on product requirements in terms of performance rather than design or descriptive characteristics (World Trade Organization 2002a).

However, the European Commission's stance was that the TBT is not applicable to the ban as the measure should be instead checked for compatibility as an exception in GATT 1994.

Under Art. XX (b), member states can provide differential treatment of "like products" for the protection of human health, life, plant and animal life, and for the conservation of natural resources (World Trade Organization 2002a). The panel

agreed that it was, as such, not a technical regulation, but in doing so did not discuss what exactly the scope of the TBT agreement is and why it would not apply in this case. The ban was then to be checked for compliance with GATT 1994. However, France was still forced, under GATT rules, to justify its violation of trade rules under said article. The burden of proof rested on the EC to convince the panel that their decision to ban the substance was justified under the GATT article.

At this point Canada was claiming that the ban violated Article 111.4 of GATT which states that countries shall not discriminate between products imported and like products produced domestically. The "like products" argument brought about several issues of contention for those involved in the hearing. The panel had accepted that the measure, while meeting the criteria of Art XX of GATT as an exception, seemed under Art 111.4 to be an obstacle to trade. As such, Canada's argument about "like products" was deemed valid and as such the burden of proof shifted to the EC team.

The panel considered asbestos alternatives (some of which are produced in France) as being "like products," comparable to asbestos. They were considering only the end use of the products and not such crucial characteristics as toxicity. Indeed, one panelist claimed that health was irrelevant with regards to Art. 111 of GATT (Vogel 2001b). By comparing only the consumer quality and end use of asbestos/asbestos-cement products with alternatives they were ignoring the carcinogenic characteristics of the former. In addition, even the discussions they did have about the substantive nature of alternatives was lacking:

> ...in deciding whether the French asbestos ban was justified on the grounds of public health, the only products WTO considered were

> those involving different fiber-cement compositions ("like" products, in WTO-speak) – and that did not even include the full range of substitute products available as replacements for asbestos-cement pipes and sheets (iron pipes, clay roofing tiles, etc.). Thus, WTO's "trade court" and the narrow "GATT 1994" rules it is guided by failed to make a full and fair evaluation of the case for banning asbestos, in the process favoring Canada (Castleman 2000).

The fact that the panel was not aware that such alternatives exist again points to an inadequate understanding of the issues being discussed.

Both in the areas of trade rules and science, the panel seemed to have adopted a "toxic logic" where the reasoning behind each of their rulings did not seem to be supported by the evidence presented, or even by the panel's own statements (CIEL-WWF 2000). No one involved in the dispute was entirely satisfied with the ruling and on October 23, 2000 Canada filed its notice of appeal. The EC followed up with its submission on November 21, 2000. On March 12 of 2001, the Appellate Body, composed of judges Florentino Feliciano, James Bacchus and Claus-Dieter Ehlerman, released their own report on the case. This ruling would be fraught with its own set of problems.

There were some positive aspects to the ruling which upheld the ban, the most notable of which was the reversal of the so-called toxic logic. The AB ruled that indeed, it was crucial to examine more than just the end use of a product if one was to consider the "like products" argument. As such, the carcinogenic qualities of asbestos were crucial to a consideration of the issue:

> The Appellate Judges disagreed [with the panel], highlighting the need to examine the molecular structure, chemical composition, fibrillation capacity, health risks, consumers' tastes and habits and tariff classifications in assessing "likeness": "In examining the physical properties of the two sets of cement-based products, it cannot be ignored that one set of products contains a fibre known to be highly

> carcinogenic, while the other does not... We, therefore, reverse the Panel's finding... that these health risks are not relevant in examining the 'likeness' of the cement-based products" (Kazan-Allen 2001a).

This consideration of toxicity was well received by anti-asbestos activists as well as the EC team. Yet even then, the discussion remained economically driven as the AB still considered toxicity as only one of the many factors mentioned above to be considered. (Vogel 2001b, 23). Also disturbing was that the Appellate Body decided that the ban did, in fact, constitute a technical regulation, reversing the initial decision of the panel in considering the asbestos case. The AB stated that "the TBT Agreement imposes obligations on Members that seem to be different from, and additional to, the obligations imposed on Members under the GATT 1994" (Vogel 2001b, 23). However, they also stated that they felt that because the panel had not examined the case from the perspective of the ban being a technical regulation, that they were not equipped to examine the question either. As such, the scope of the TBT agreement remains unclear.

The implication of this AB finding is that Canada could actually take this challenge back to the WTO as a case to be tried specifically under the TBT. However, most observers feel that Canada would be unlikely to venture down that path because

> Had the dispute been handled under the TBT Agreement, the burden of proof would have been on Canada to show that "controlled use" of asbestos is achievable, rather than (as the case was resolved by the Panel) on France to show that "controlled use" is not practically achievable. The decision on who bears the burden of proof is of tremendous importance as a precedent for other WTO cases involving banned, hazardous products (Castleman 2000).

In this situation Canada would also have to have defended their position on "like products."

The end result of this ruling, and the reversal of the initial panel findings by the Appellate Body, has been a great deal of confusion for all involved. Indeed, several observers have commented that the decision went "from an unclear decision to no decision at all" (Vogel 2001b, 23).

Given that the favourable decision was so tenuous and fraught with problems, it seems likely that there was nothing inherent in the decision-making process, or the evidence itself, which led to the outcome. As such, it seems likely that other factors must have had a significant degree of influence on the panel members. In a political climate which has created highly unfavourable conditions for institutions like the WTO, it would have done irreparable damage to their public image to appear to support the trade of a known carcinogen responsible for millions of deaths world-wide, a practice which the majority of the public, including Canadians, would not support.

The Seattle Factor

Working on Gramscian assumptions authors Walden Bello, Maude Barlow, and Tony Clarke view the events of the past few years as the realization of Gramsci's theories on legitimacy. While the critical moment of crisis is most often considered to be the protests at the Millennium round of WTO negotiations in Seattle in 1999, there are several events that also seem to have precipitated the crisis.

Bello has examined numerous socio-economic factors over the past two decades that he feels have played a significant role in the rise in criticism against the

WTO. Six financial crises since 1970, according to UNCTAD reports, culminating in the Asian crisis of 1997, shattered the long-espoused presumption that the process of globalization was an innocuous process, which would ultimately be beneficial to all those involved (Bello 2000a, 3). Consistently it has been the poorer countries that the globalization process was supposed to assist who have felt the brunt of those financial fluctuations.

The various financial crises were compounded by the apparent failure of Structural Adjustment Programs (SAPs) which were the method through which Third World countries were supposedly going to benefit from globalization (Barlow and Clarke 2000, 60-63). The reality of SAPs was that they left a dramatic increase of poverty in their wake with the numbers of those living in poverty rising from 1.1billion in 1985 to 1.2 billion in 1998 (Bello 2000a, 7).[16] As this series of events unfolded, an increasing realization spread among both First and Third World populations that globalization, in the form they had been sold, was not providing prosperity but rather was increasing global poverty and widening the gap between rich and poor.

Logically, international organizations that facilitate the "globalization process" have become the focal point for the frustrations of those concerned about trade and development issues, and the spread of Transnational Corporations. Bello pointedly quotes Ralph Nader in saying that

> ...the creation of global trade pacts like the WTO was likely to be the "greatest blunder in the history of the modern global corporation."

[16] The last twenty years, the "era of globalization," have resulted in significant increases in poverty levels as compared with the previous two decades. These poverty levels have been measured with the following development indicators: economic growth, life expectancy, mortality rate, education, and literacy (Baker et al. 2001).

> Whereas previously, the corporation's operating within a more or less 'private penumbra' made it difficult to effectively crystallize opposition, he argued that "now that the global corporate strategic plan is out of print…[it] gives us an opportunity" (Bello 2000b)

The kinds of judicial and legislative powers granted to organizations like the WTO provide an opening for NGOs to create a common analytical position facilitating the mobilization of a counter-movement: "the WTO has mobilized and 'radicalized' a new, powerful sector of the population" (Barlow and Clarke 2000, 14).

All of this has led to the Gramscian "withdrawal of consent" and "an increasing lack of confidence in the global elite and their institutions" (Bello 2000a, 2). This withdrawal has been followed by a questioning of the legitimacy of international institutions like the WTO. Further fuel for this counter-movement has been documented by Maude Barlow and Tony Clarke. Like Bello, Barlow and Clarke suggest that much of the momentum for what occurred in Seattle gathered during the 1980s. Developing countries began to organize over a number of issues: agriculture and food production; the lack of control over environmental regulation due to increased free trade; intellectual property rights (more so with the recent proposals for trade-related aspects of intellectual property rights [TRIPS]); and debt relief for those countries destroyed by structural adjustment (Barlow and Clarke 2000, 17-19).

The first qualitative evidence of the unification of various NGOs came in 1998 with the Multi-lateral Agreement on Investment (MAI). When word of the impending trade agreement reached was leaked to the public, NGOs mobilized with record speed. The Canadian government only began public consultations after it had been leaked: "[m]eetings with environmental, culture, and labour groups had not

taken place until 1997 – after the MAI became a public issue" (Barlow and Clarke 2000, 104). At that point a unified front of over seventy organizations from around the world emerged to create public awareness about the agreement. The ensuing public pressure on governments the world over was enough to fell the agreement for the time being.

While the various NGOs involved represented seemingly disparate concerns, the creation of this unified front came from their aforementioned ability to synthesize their various concerns into a common analysis about trade liberalization: "a belief that economic globalization is driving the earth to meltdown; that the gap of poverty is widening; [that] transnational corporations are setting the agenda and dictating civil life; [that] public health globally is worsening; disappointment with the governments buying into the system [sic]" (Barlow and Clarke 2000, 26-27). A growing fusion between the global and local has created a powerful force in the trade arena.

Part of this fusion has been facilitated by the use of communications technology, increasing the ability of organizations to create strong and efficient networks: "...the combination of citizens' resistance to globalization and communications technology has created global citizens' movements that can assemble and meet the 'enemy' at a moment's notice" (Bello 2000a). The asbestos case itself was no exception to this. Internet communication has allowed organizations like the Ban Asbestos Network (BAN) and the International Ban Asbestos Secretariat (IBAS), both of which encompass dozens of anti-asbestos and asbestos victims' organizations around the world, to react quickly to relevant news or

decisions. These networks have been able to almost instantaneously place public pressure on decision-makers at every level and in every part of the world.

As an example, these networks were recently able to shed light on actions being taken by the Asbestos Institute to discredit Brazilian asbestos activist Fernanda Gianassi. The result was that the AI itself was the one who was discredited through the ensuing negative publicity (Kazan-Allen 2001b). These networks, and others like them, have served as a reminder to international institutions that the world is indeed watching.

As the anti-globalization movement was becoming increasingly fine-tuned, their target became more definitively focused with the creation of the WTO. The veneer of legitimacy of this organization slowly started to strip away. The culmination of the growing momentum came in November of 1999 in Seattle, Washington where world leaders and economic representatives were gathering for the Millennium Round of WTO negotiations. Over 50,000 people converged on the city in protest of the proposed expansion of power of the organization.

The meeting quickly became a source of international embarrassment for the organizer and member states. Cracks in the WTO began to show. Internally, dissent amongst member states also became apparent. Third World Member States began to vocalize their opposition to the domination of First World agendas. These states had previously been told that questions of economic and political inequalities between First and Third World states would be discussed during the round, but upon arrival to the meetings there was no evidence of that to be found. When it was discovered that the meeting would simply be 'business as usual,' concerned states voiced their anger.

In response, the United States "unilaterally imposed discipline on the meeting" (Barlow and Clarke 2000, 14). Dissension within the ranks was occurring for all the world to see.

Outwardly, it appeared as though WTO officials were dismissing the impact of the protests. Officials publicly claimed the protestors were merely fractured factions of movements who were unable to achieve cohesion (Barlow and Clarke 2000, 125). But privately there was an understanding that this type of mass mobilization could not be easily ignored. In the days, weeks, and months following the Millennium Round disaster, officials began to formulate plans on how to deal with their increasingly tarnished world image: "they're understanding their public image is not good" (Barlow and Clarke 2000, 45).

Soon evidence began to appear that trade officials were very much more concerned about the growing incidence of protests than they had led the media to believe. The United Kingdom's Secretary for Trade and Industry was heard to say that "The WTO will not be able to continue in its present form. There has to be fundamental and radical change in order for it to meet the needs and aspirations of all 144 of its members" (World Development Movement 2000). C. Fred Bergsten, the head of the Institute of International Economics, was quoted as saying "The anti-globalization forces are now in the ascendancy" (Bello 2001d).

Walden Bello documented numerous occasions where "[a]fter Seattle, much talk about reforming the global economic system to bring on board those 'being left behind' by globalization was emitted by establishment personalities like Bill Gates, Bill Clinton, Tony Blair, Kofi Annan, and Nike CEO Phil Knight" (Bello 2001a).

What remained to be seen, however, was how this new compassion for those "left behind" would manifest itself.

Beyond rhetoric, there really has been no attempt to make fundamental changes to the structures of global institutions like the WTO. Where there once was talk of increasing transparency and democracy within these organizations there has been little evidence that these issues are being discussed as actual goals these organizations wish to achieve. What is actually occurring is succinctly summarized in Bello's critique of Tony Blair's "Third Way": "In short, instead of being run over by the globalization express, people will be asked to quietly and peacefully roll over and adjust to the constant and unpredictable change wrought by the TNCs search for profitability" (Bello 2000b).

Indeed, the direct response of global institutions has been more reactionary than conciliatory in nature. One of their most common tactics has been to discredit or delegitimize NGOs and protestors. An interesting example of this appeared after the demise of the MAI: "[the] International Chamber of Commerce hinted at a backlash strategy by questioning the legitimacy of anti-MAI groups, a suggestion now echoed in newspaper editorials. Who gave these 'unelected' groups the right to stall economic progress? They [sic] ask, neglecting to mention that business editors and World Bank officials hardly qualify as elected officials either." (Barlow and Clarke 2000, 46). Bello has also noted that in attempts to manage civil society one method has been to "divide their [NGOs] ranks by publicly defining some as 'reasonable NGOs' that were interested in a 'serious debate' about the problems of globalization

and others as 'unreasonable NGOs' whose agenda was to 'close down discussion'" (Bello 2000b).

Other tactics have included giving NGOs "other sandboxes to play in" (Barlow and Clarke 2000, 47). This often involves making small concessions to NGOs by allowing them to participate within organizations like the International Labour Organization (ILO) who, while internationally recognized, lack the powerful enforcement abilities of the WTO. This also occurred in the 1990s when the World Bank formulated the NGO Committee on the World Bank:

> While the NGOs that joined these bodies may have done so with the best of intentions, Wolfensohn [the creator] knew that their membership in itself already helped to legitimize the Bank and that over time these NGOs would develop a stake in maintaining the formal relationship with the bank…[this] should serve as a warning to civil society of the mettle of the forces it is up against (Bello 2000b).

However, the protests of recent years have made it clear that these types of concessions are not adequate.

Yet another attempt to neutralize the impact of civil society protests has found trade officials being extremely careful about the geographical locations of their meetings. The last round of WTO negotiations took place in Doha, Qatar. There is little question as to why this particular location was chosen. The likelihood of protestors being able to organize in a place where the punishment for doing so can range from immediate imprisonment to death is extremely low. Similarly, the Canadian government wisely chose Kananaskis, Alberta, a Provincial Park, for the situation of the next G-8 summit in order to avoid the massive protest that occurred at the recent summit in Genoa, Italy. Any protestors who do damage to the park will automatically be vilified by the public. Instead, should protests occur, government

officials instead will likely be the ones to garner public sympathy. As such, it seems reasonable to suggest that the French victory in the asbestos case may well have been a concession by the WTO in an attempt to retain a veneer of legitimacy.

Chapter 5 - Conclusions

The Asbestos Case: Winners and Losers

From the narrower perspective of the case as it relates to the asbestos battle, it can indeed be deemed to be a victory for the cause. The ruling appears to have set the dominoes in motion as country after country is banning the substance. Argentina, Australia, Spain, and Chile have all recently decided to ban chrysotile asbestos. The latter case sparked a great deal of controversy in Canada and around the world.

In June 2001 Prime Minister Jean Chrétien made a personal phone call to Chile's President Ricardo Lagos regarding the country's plans to ban asbestos (Kazan-Allen 2001c). At that time, Chrétien suggested that Chile was being undemocratic in implementing such a ban. He encouraged the Chileans to re-examine the science used in formulating their decision as they had clearly been misinformed as to the dangers of the substance. However, Chrétien's plan backfired, as a barrage of negative international publicity followed. The Chilean ban then proceeded undaunted.

Additional good news followed when on February 21 of 2002 the United Nations Environment Programme (UNEP) announced that "all forms of asbestos should be added to an international list of chemicals subject to trade controls." This will launch an intense process of investigation to conclude in 2003. A review is triggered when any two countries in two different regions ban or restrict a substance. This will ultimately launch an international effort to "eliminate the risks associated with asbestos and its products" (Kazan-Allen 2002).

It appears the "chill effect" with regards to banning asbestos has been quelled. Those developing countries that are the primary consumers of asbestos now have the backing of the international community should they make moves towards protecting public health by banning the substance. They no longer have the fear of being challenged at the WTO and potentially facing costly sanctions should they lose. However, on a broader scale, the case is a bittersweet victory which does not provide as much hope for the future.

The convoluted nature of both the DSB and AB rulings indicates an unwillingness on the part of the WTO to commit to substantive change. In addition, the fact they were unwilling to address the issue of the TBT agreement as it relates to health indicates that they are not interested in even examining the structural and political problems in the process. But while the world was watching, the asbestos case might have been the perfect opportunity to legitimize the organization in an era where civil society has become much more questioning of its authority:

> Looking beyond the legal arguments, the political scope of this case should not be underestimated. For one thing, the attempt to overthrow a ban on a known carcinogen which kills hundreds of thousands of people a year across the world earned the WTO widespread public opprobrium. The WTO was keen to avoid a repeat of the successful demonstrations seen at Seattle, Davos, and Porto Alegre (Vogel 2001b, 24).

While the outcome was positive for the anti-asbestos movement, the process ultimately failed civil society. There is no evidence from examining the Dispute Settlement process to suggest that the system "works." What is apparent is that the system is so structurally flawed that public health or environmental activists cannot look to the process for protection in the future, as Barry Castleman explains:

> I fear that talk of the WTO understanding the need for the precautionary principle and allowing the maximum protection of humans from toxic substances in the face of scientific dispute is wildly optimistic. Look at the politics and the economics. This case was won because the WTO desperately wanted to look like they care about something more than free trade after the protests in Seattle…We may not be so lucky next time (Kazan-Allen 2001a).

Indeed, one might fear that this decision could result in complacency among activists who have not fully examined the decision and its ramifications under WTO trade rules. The WTO will continue to hail the asbestos case as evidence that they are responsive to the concerns of civil society and it may be all too easy for observers to do the same.

For those who see the asbestos case as an endorsement of the precautionary principle in international decision-making, they should remain wary. The historical and scientific evidence presented precluded this case from being a question of decision-makers taking preventive measures in the presence of scientific uncertainty. Full scientific proof existed for decades and the result of not taking protective measures at that time has been disastrous. Nonetheless, the structure of the Dispute Settlement process required that the burden of proof rest on France and the EC to provide evidence of risk rather than on Canada, as would occur in a "traditional" legal setting. And the logic of the rulings suggests that carcinogenicity alone is not enough to warrant a state taking actions to protect public health.

All this leads to a rather overwhelming question: how is it that a trade-based organization has dominion over domestic public health issues? An organization of people that knows little about science or medicine is given the power to make decisions that have the potential to affect millions of lives. Even the "expert"

panelists they choose to preside over disputes, as the asbestos case showed, are ill-equipped to deal with the complexities of the issues they are examining.

The asbestos case shows it is extremely easy for mistakes, based on a lack of understanding, to be made. Those mistakes can potentially cost lives. The WTO's infrastructure will likely continue to be a hindrance in the pursuit of protecting public health and the environment. As such, the asbestos case underscores the importance of activists not becoming complacent in questioning the legitimacy of the WTO's jurisdiction in these areas.

However, at the heart of the debate is not simply whether procedural mistakes have been made, but whether this issue should have been adjudicated at this forum at all. In a situation where corporate interest has been extremely high and thousands of lives have been already been lost, one must question why an economically driven institution was given jurisdiction to make the final decision in this case. The results of the asbestos case can only be considered as justification for putting future cases in the hands of institutions like the WTO if:

> ...we think that the shocking irresponsibility and secrecy with which the Monsantos and Novartises have foisted biotechnology on us is a departure from the corporate norm. Only if we also see as deviations from the normal Shell's systematic devastation of Ogoniland in Nigeria, the Seven Sisters' conspiracy to prevent the development of renewable energy sources in order to keep us slaves to a petroleum civilization, Rio Tinto and the mining giants' practice of poisoning rivers and communities, and Mitsubishi's recently exposed 20-year-cover up of a myriad of product-safety violations to prevent a recall that would cut into profitability. Only if we think that it is acceptable business practice and ethics to pull up stakes, lay off people, and destroy long-established communities in order to pursue ever-cheaper labor around the globe – a process that most TNCs now engage in (Bello 2000b).

Corporate interests dominated the Canadian government's asbestos agenda for nearly a century – the result was a public health disaster. Accepting the WTO as a legitimate forum for adjudicating public health and environmental policy means allowing the corporate interests they represent to determine the health and safety of future generations.

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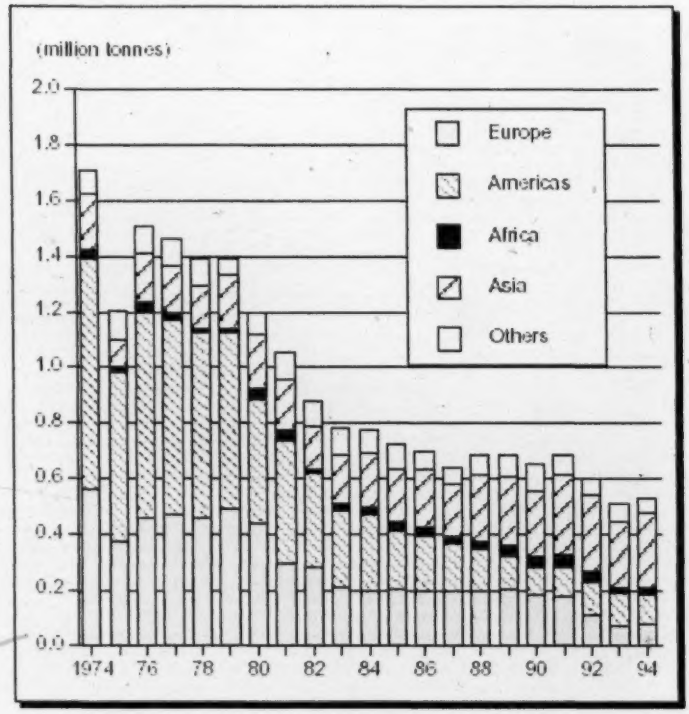
Appendices

APPENDIX A

Table 1 – Canadian Chrysotile Exports, 1974-1994



(Source: Patrick Morel-à-l'Huissier. *Canadian Minerals Yearbook: Asbestos*. Minerals and Metals Sector, Natural Resources Canada. 1995.)

APPENDIX B

Table 2.1 - Total Canadian Asbestos Production: 1970-1985 (metric tonnes)

1970	1971	1972	1973	1974	1974	1976	1977	1978
1507418	1482874	1530476	1690073	1643754	1055667	1536091	1517360	1421808

1979	1980	1981	1982	1983	1984	1985
1492719	1323053	1121845	822000	857504	836654	74678

(Source: Energy Mines and Resources, Canada. *World Asbestos Survey 1985.* Declassified July 13, 1994)

Table 2.2 – Canada, Asbestos Production and Exports, 1987-1999

	Crude Asbestos	Milled Fibres	Short Fibres	Total
		(tonnes)		
PRODUCTION[1]				
1987	–	365 144	299 402	664 546
1988	14	399 550	310 793	710 357
1989	–	410 588	303 448	714 036
1990	–	379 047	306 580	685 627
1991	–	335 506	350 502	686 008
1992	–	259 819	327 175	586 994
1993	–	235 908	287 059	522 967
1994	–	249 862	280 995	530 857
1995	–	255 621	259 932	515 553
1996	..	241 188	265 088	506 276
1997	..	..	..	420 278
1998r	..	..	..	321 330
1999p	..	..	..	345 000
EXPORTS				
1987	1 695	353 321	293 808	648 825
1988	11 288	381 561	292 236	685 085
1989	17 198	379 601	312 915	709 714
1990	1 469	378 074	269 942	649 485
1991	2 302	353 391	330 360	686 053
1992	1 489	272 013	327 075	600 577
1993	1 739	229 000	279 695	510 434
1994	2 155	248 804	280 394	531 353
1995	968	251 251	257 356	509 575
1996	911	239 111	263 985	504 007
1997	2 793	196 967	230 482	430 242
1998	3 485	157 621	158 324	319 430
1999p	2 503	145 471	184 432	332 406

(Source: Louis Perron. *Canadian Minerals Yearbook: Asbestos*. Minerals and Metals Sector, Natural Resources Canada. 1999.)

APPENDIX C

Table 3.1 - Imports of Canadian Asbestos by France: 1983-1985 (metric tonnes)

1983	1984	1985
39957	30810	28684

(Source: Energy Mines and Resources, Canada. *World Asbestos Survey 1985.* Declassified July 13, 1994)

Table 3.2 Imports of Canadian Asbestos by France (milled fibres groups 4 and 5 grades): 1995-1999 (metric tonnes)

1994	1995	1996	1997	1998	1999
20148	20985	19768	21	18	0

(Source:
Patrick Morel-à-l'Huissier. *Canadian Minerals Yearbook: Asbestos.* Minerals and Metals Sector, Natural Resources Canada. 1995, 1996.

Patrick Morel-à-l'Huissier & Louis Perron. *Canadian Minerals Yearbook: Asbestos.* Minerals and Metals Sector, Natural Resources Canada. 1997.

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